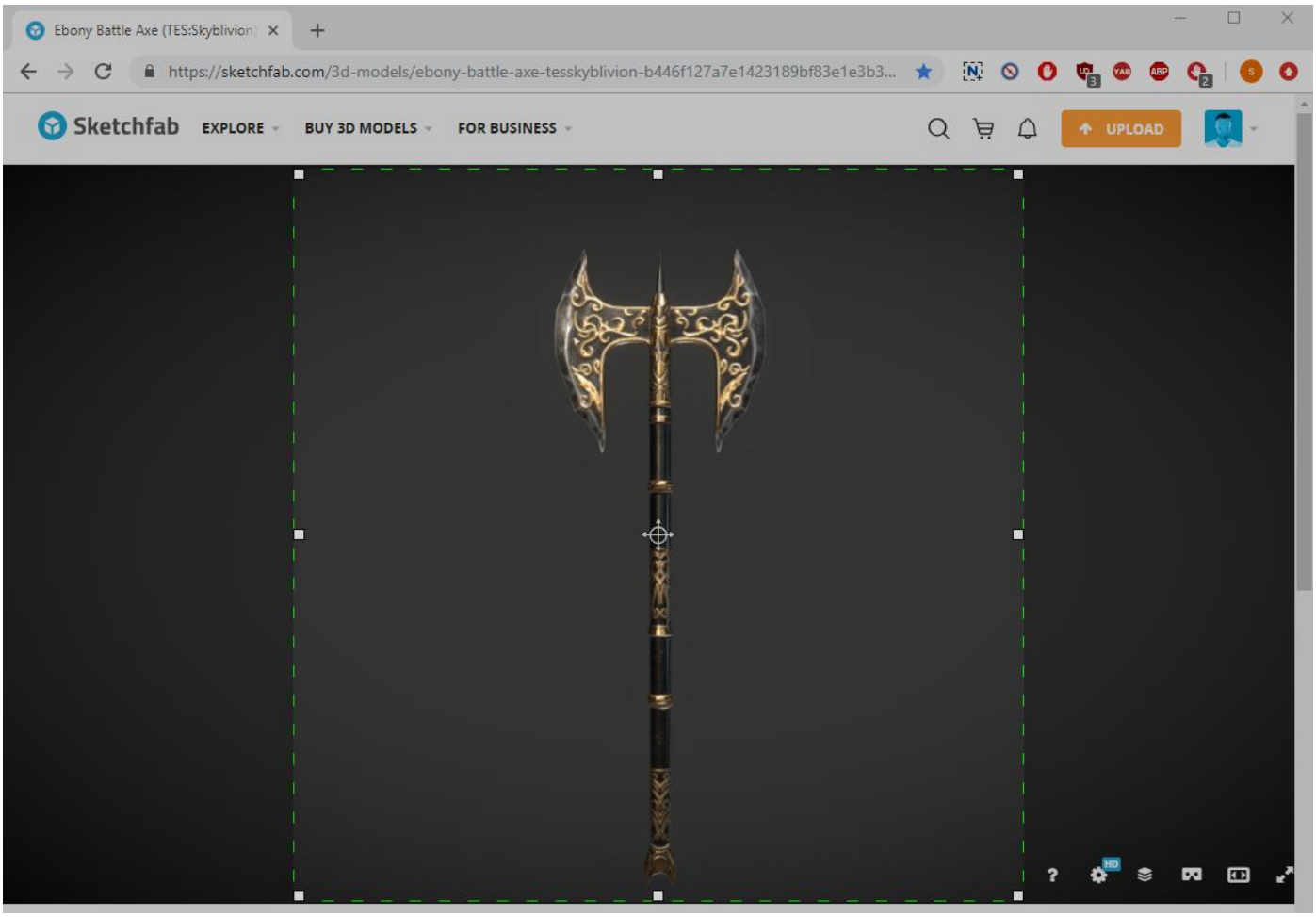
游戏斧头设计

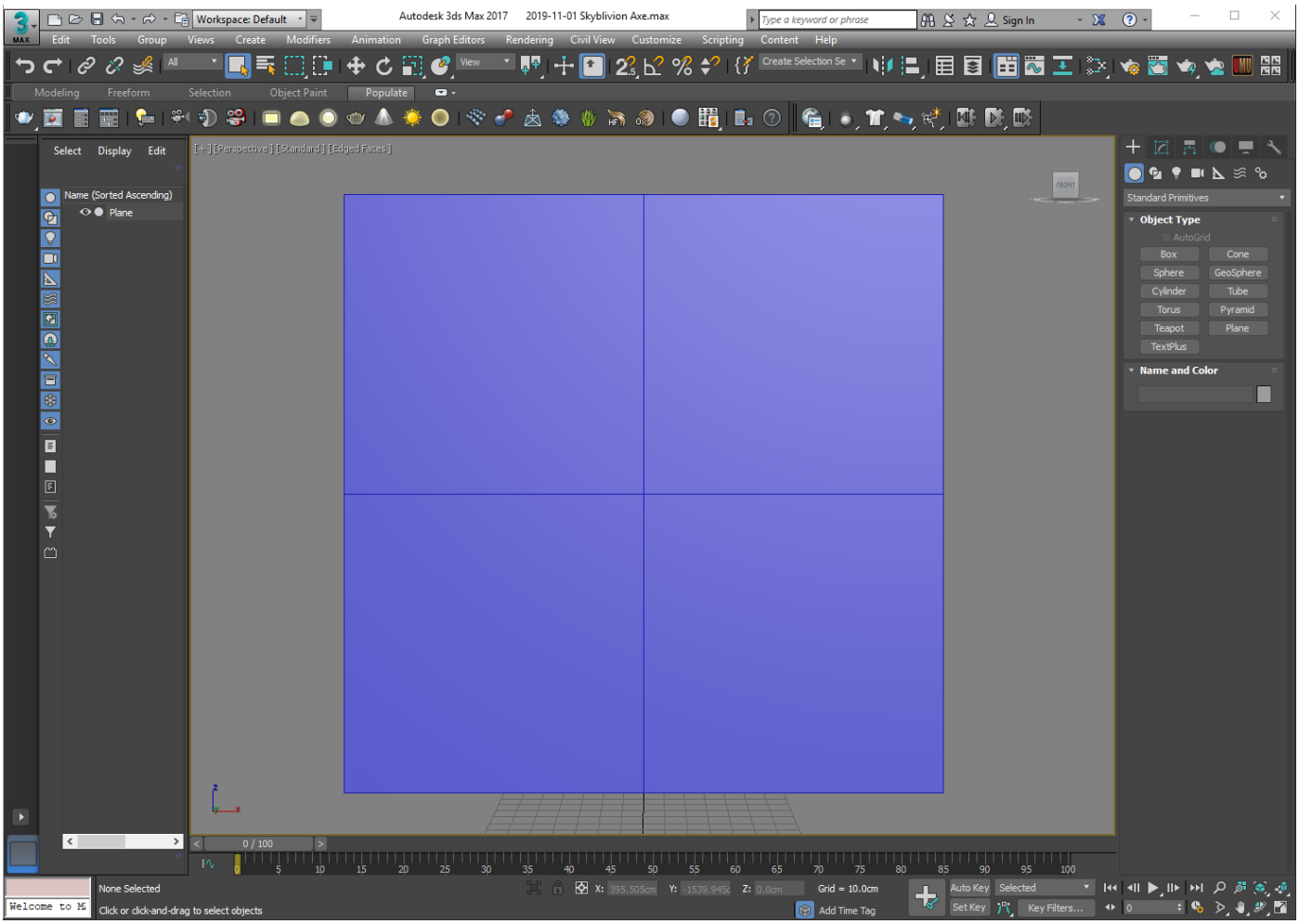
参考网站:
https://sketchfab.com/3d-models/ebony-battle-axe-tesskyblivion-b446f127a7e1423189bf83e1e3b3a619
https://skfb.ly/6ARps

软件使用:
3ds Max , Zbrush 和 Substance Painter

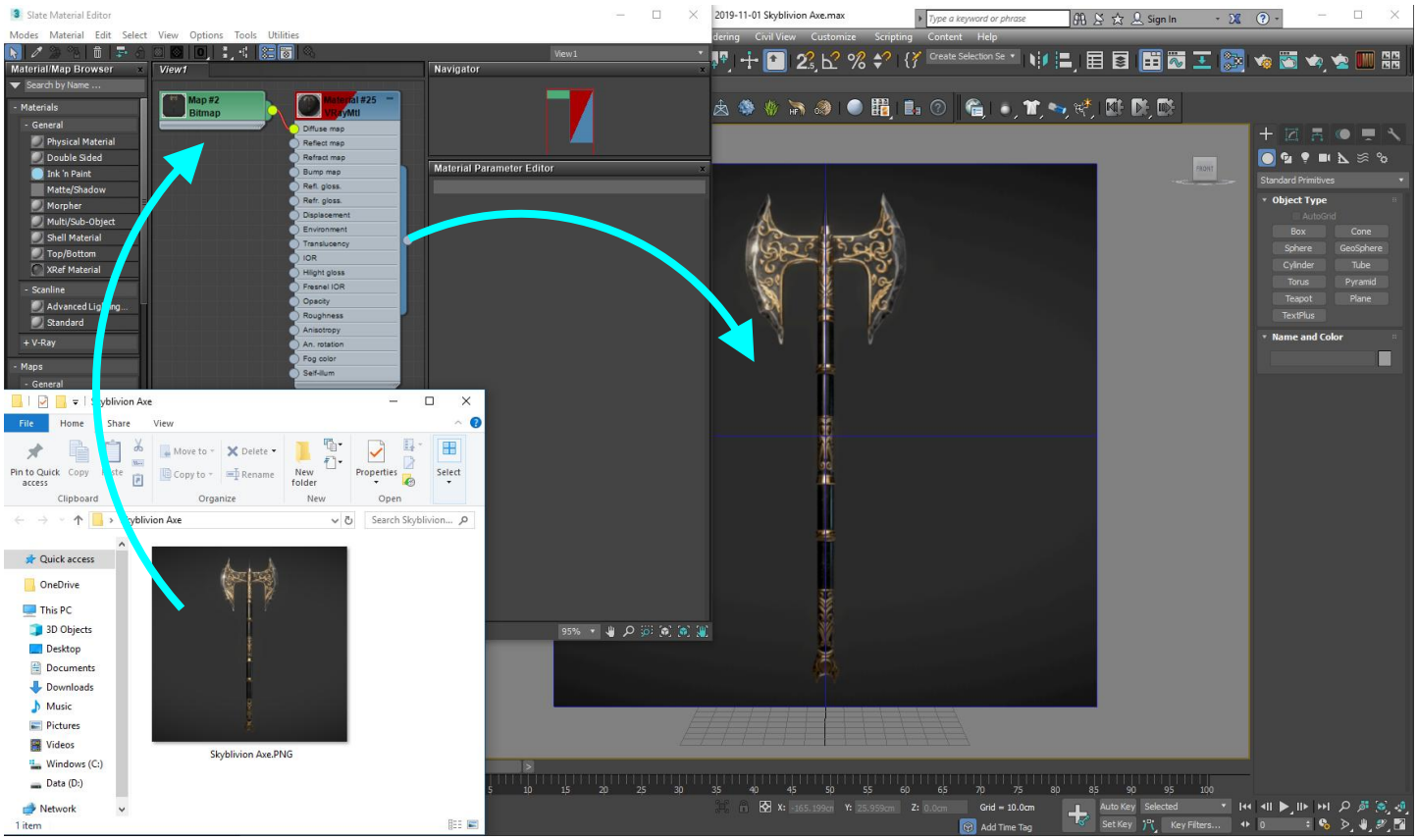
首先，在参考的网站截图你想要的游戏斧头



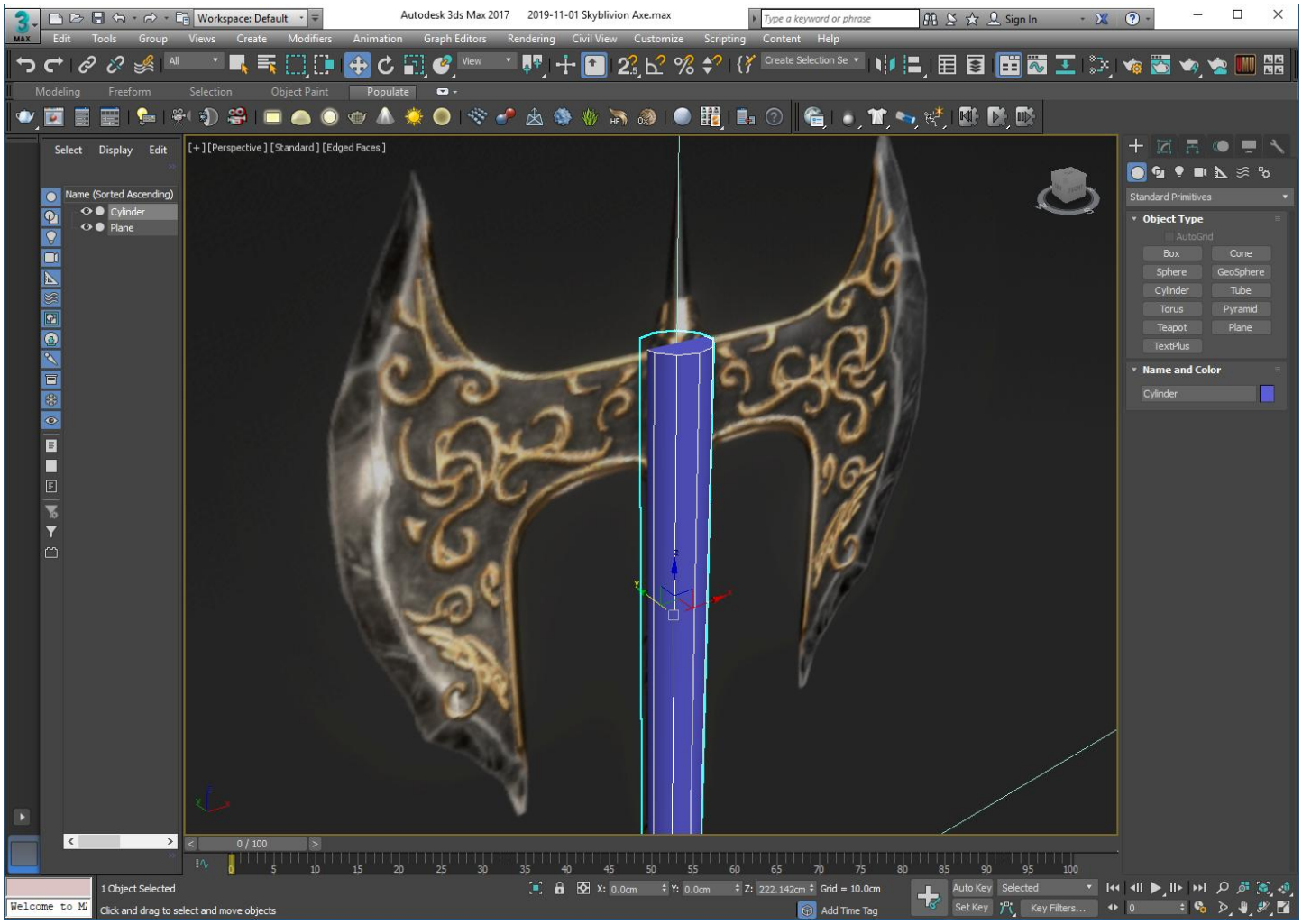
截图好了之后，在 3ds Max 里建立一个 Plane



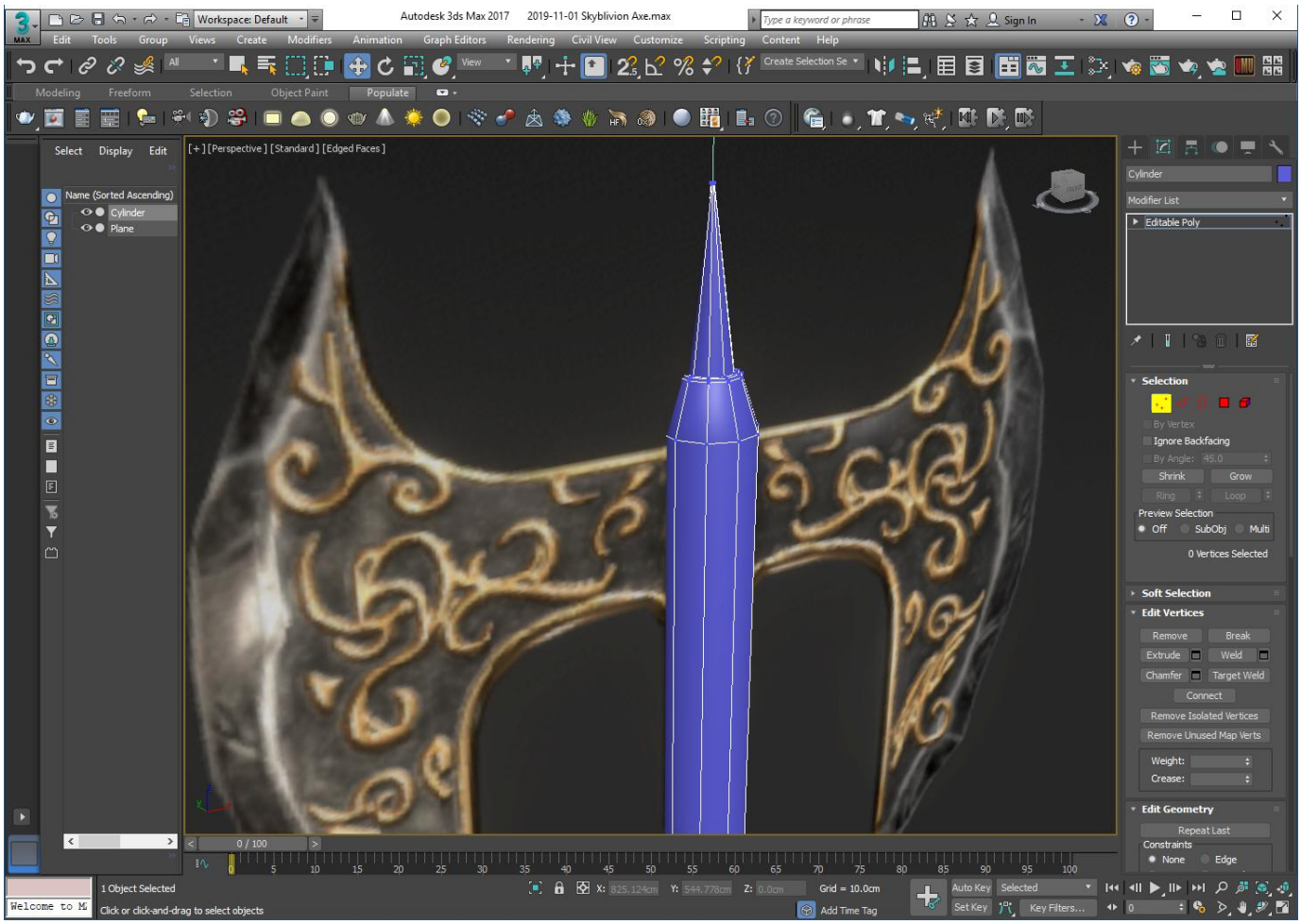
把刚刚截图的照片，放到 3ds Max 里，然后把贴图放到 Plane 作为材质



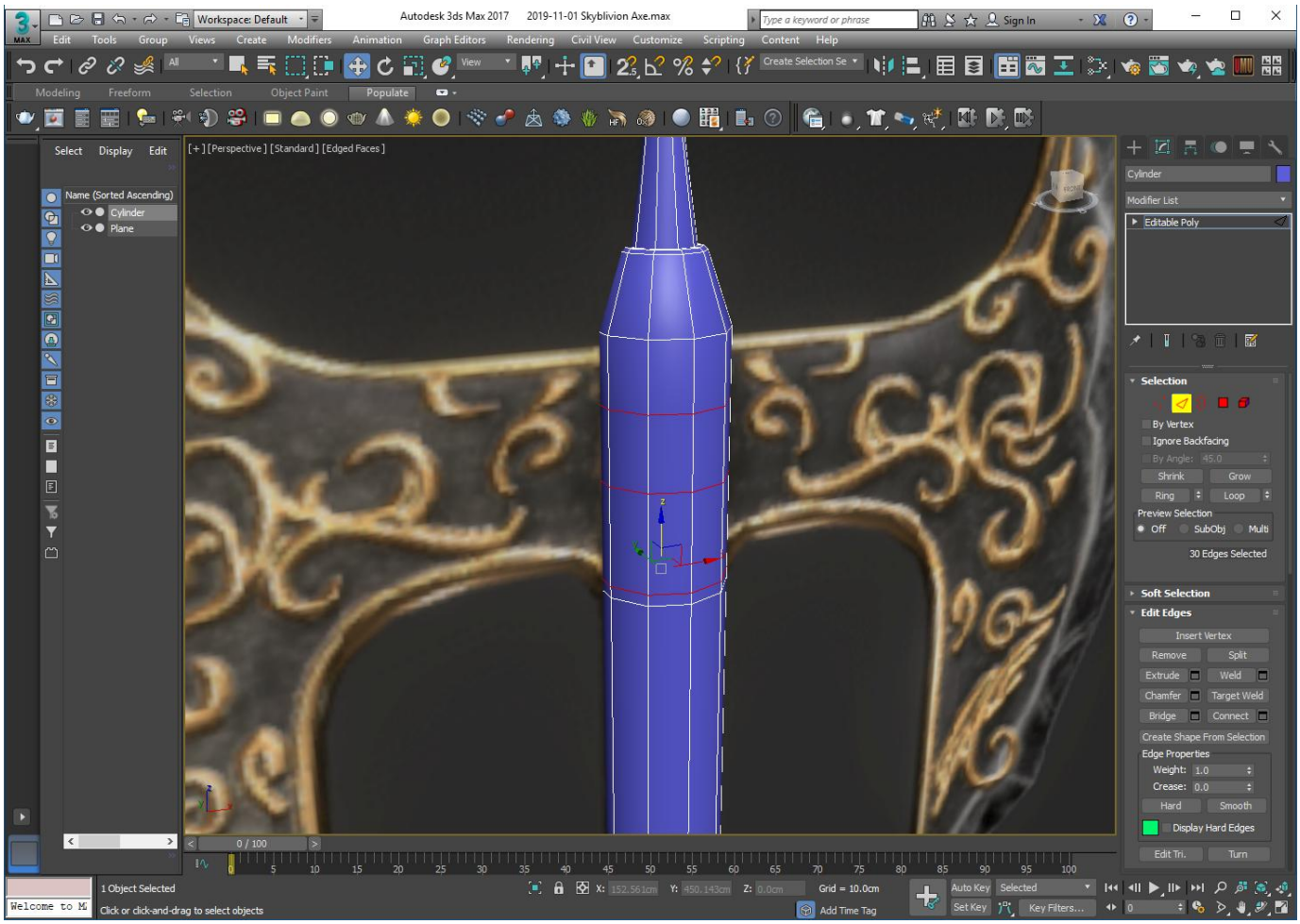
接下来我们在 3ds Max 里建立一个圆柱体 Cylinder



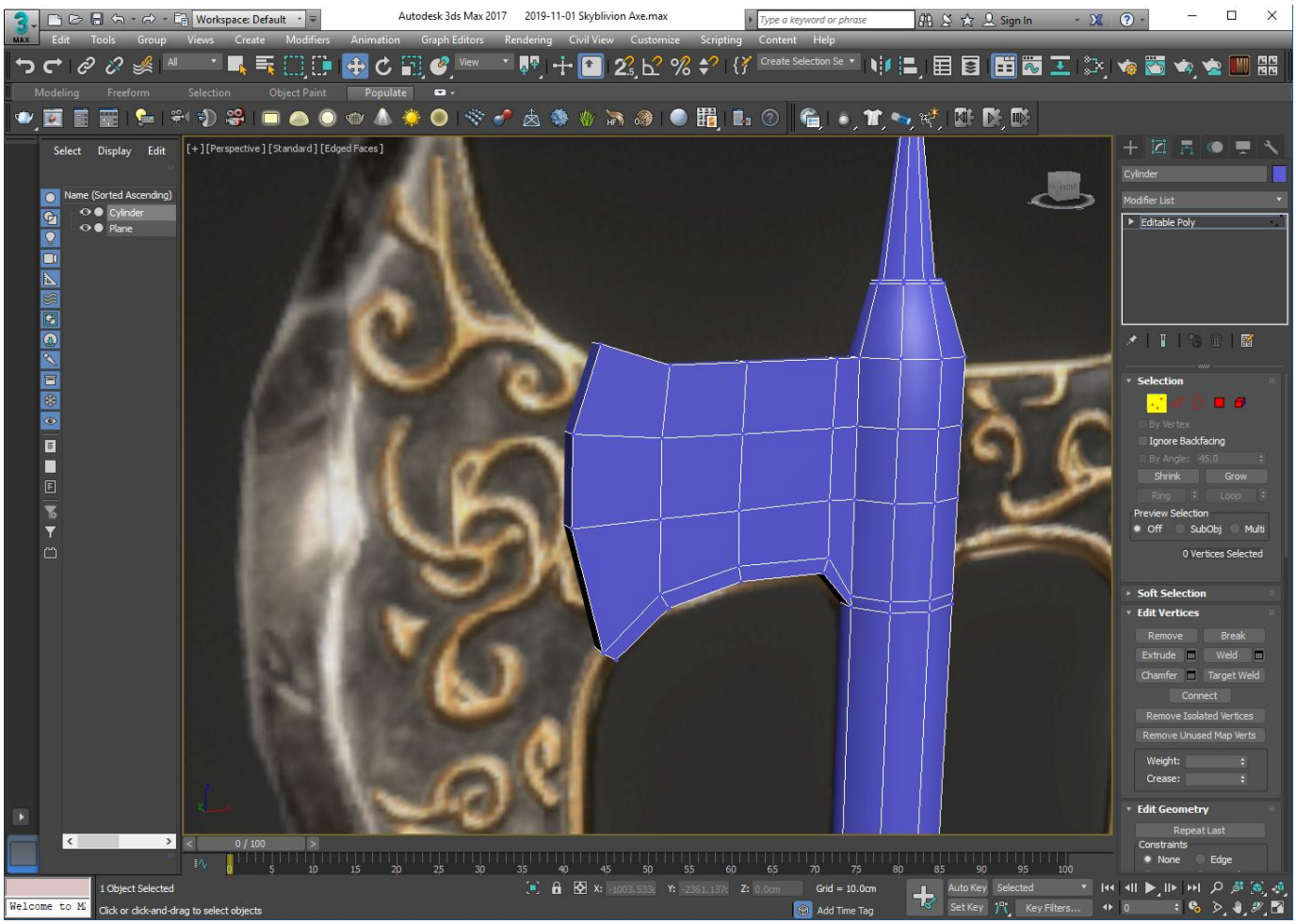
接下来我们把中间的部分做出来



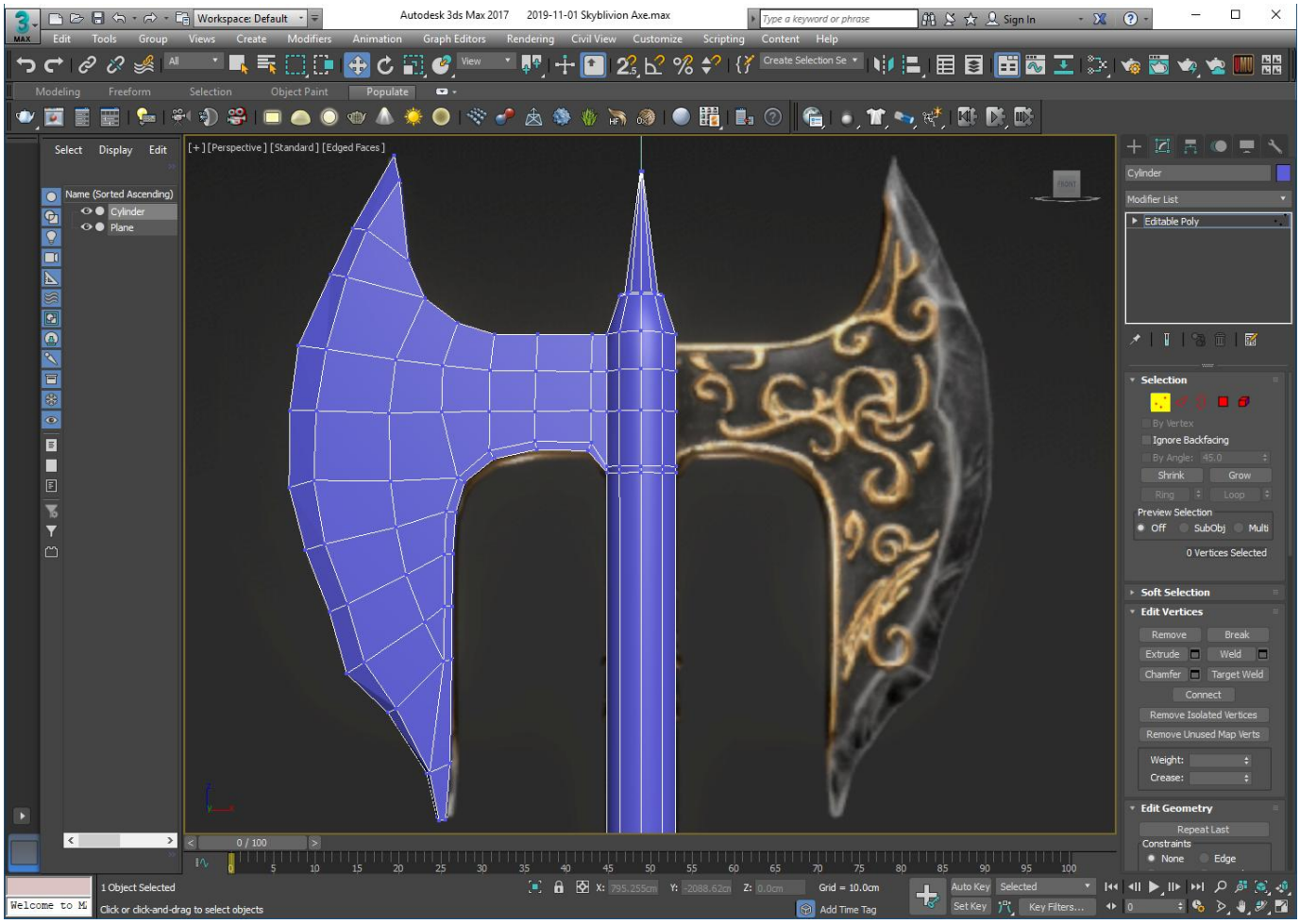
Connect 一些线，因为接下来我们要挤压一些面出来，做斧头的边



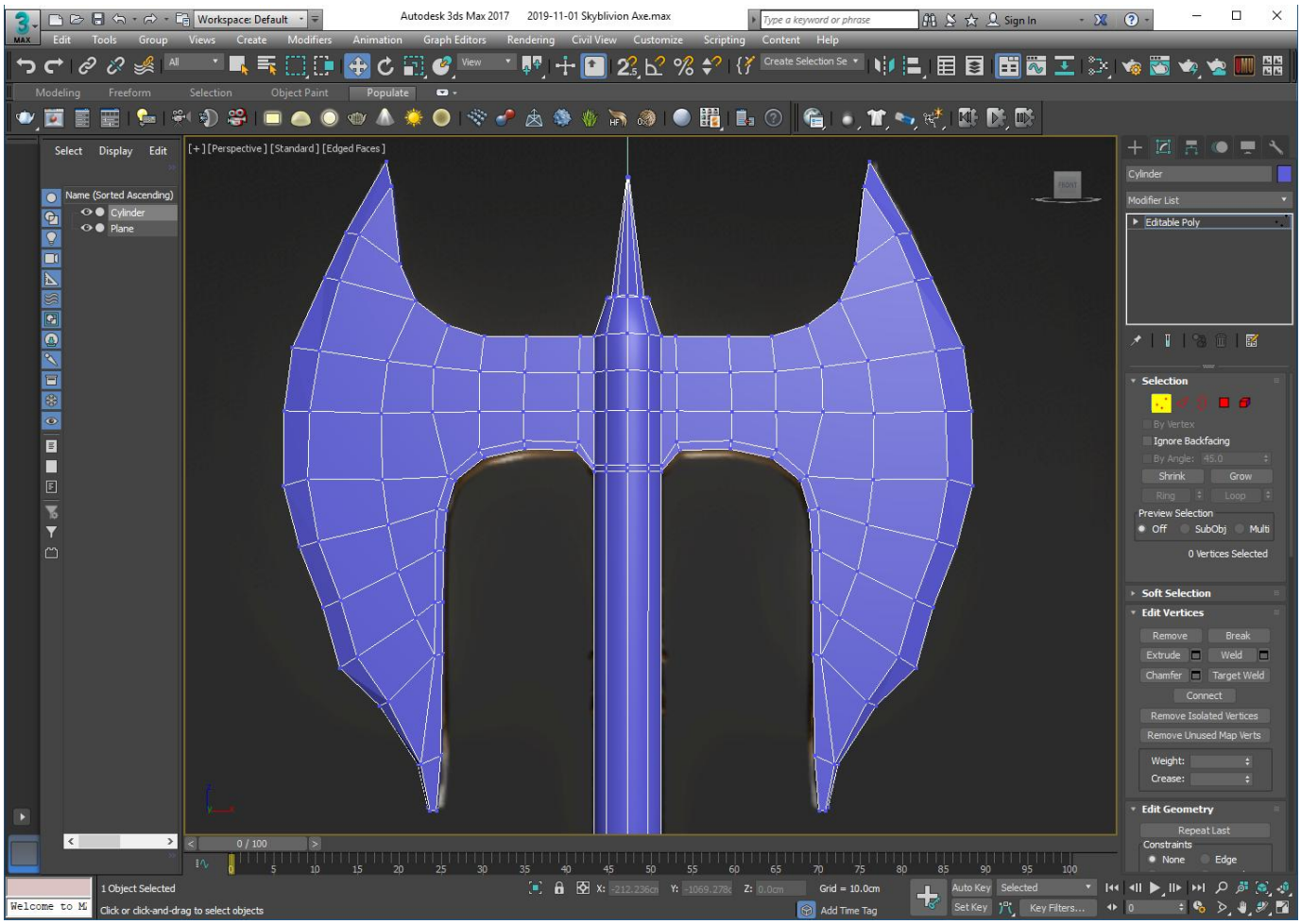
把斧头边给挤压出来



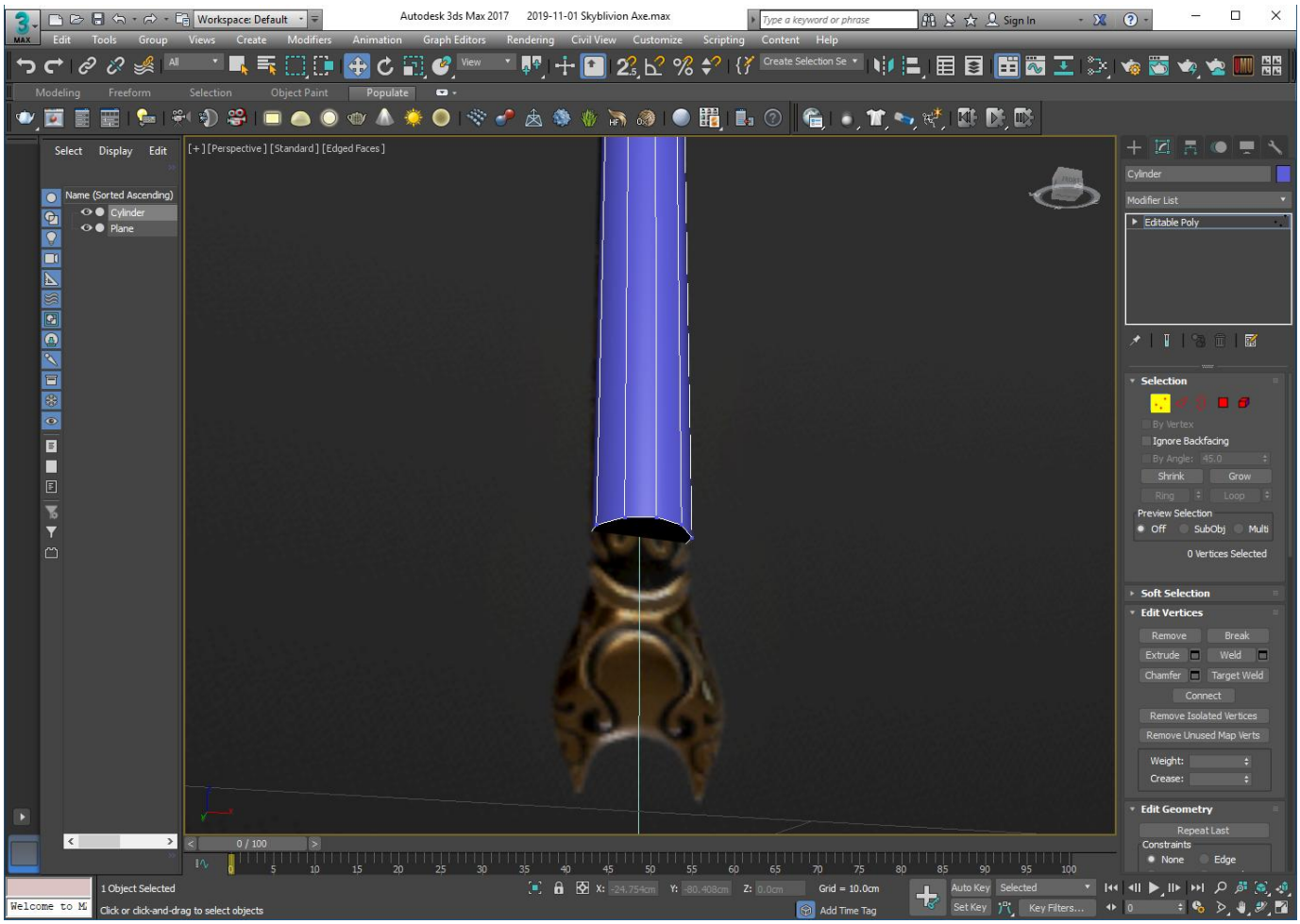
做完之后，再继续把另外一半给做出来



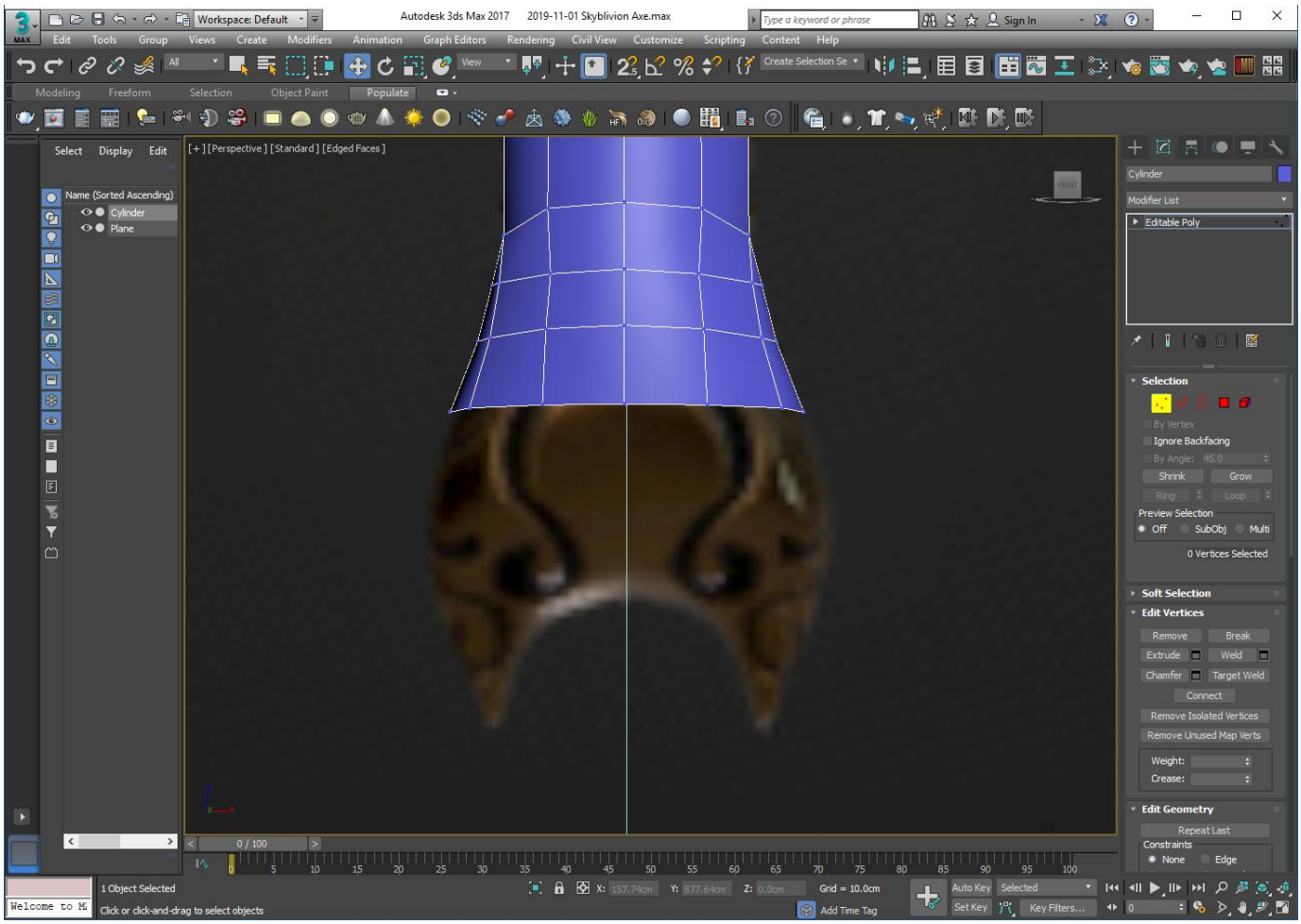
完成了，接下来做下面的部分



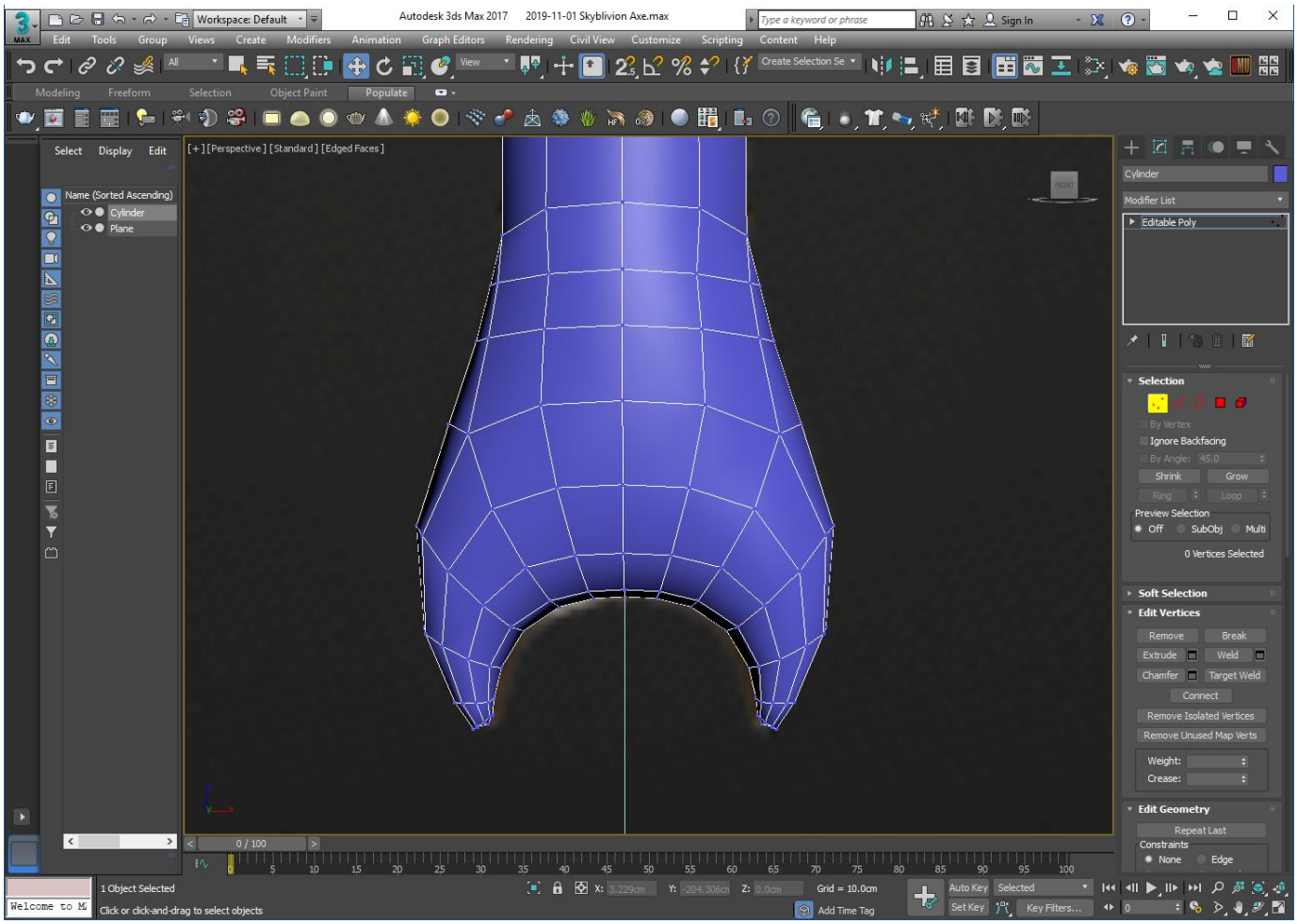
这是斧头的底部，同样的我们挤压面把下面的部分做出来



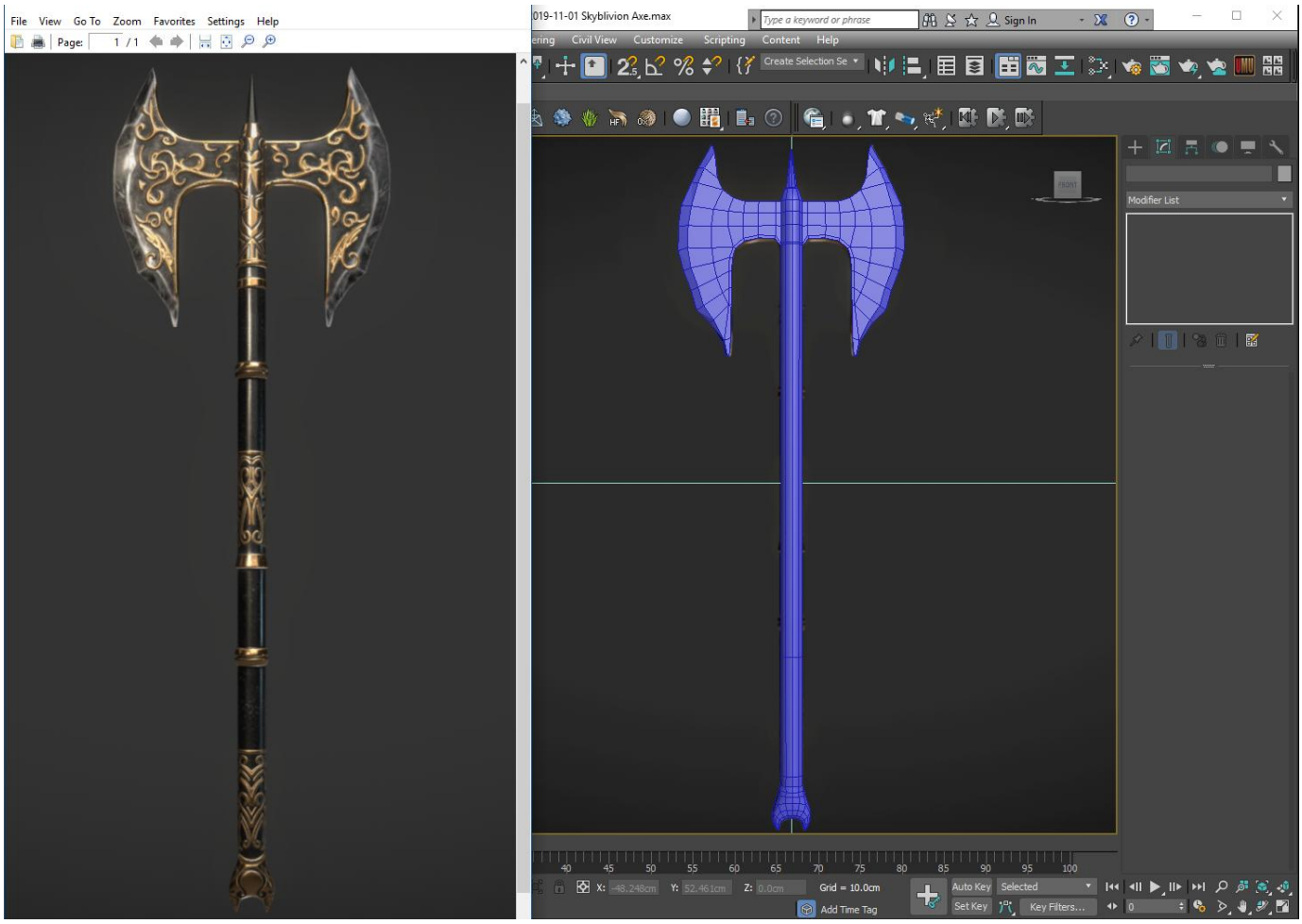
继续把下面的部分完成



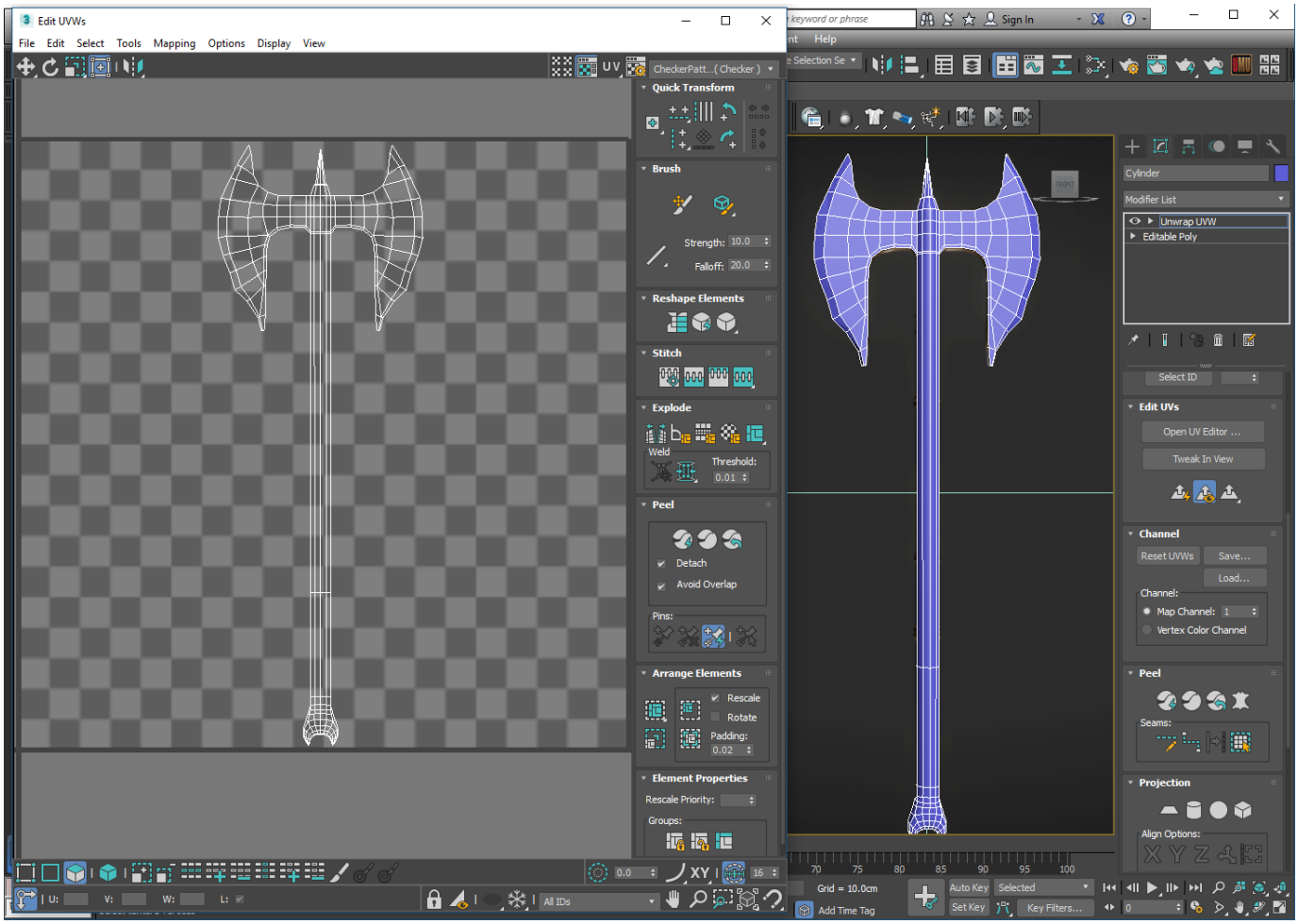
完成了



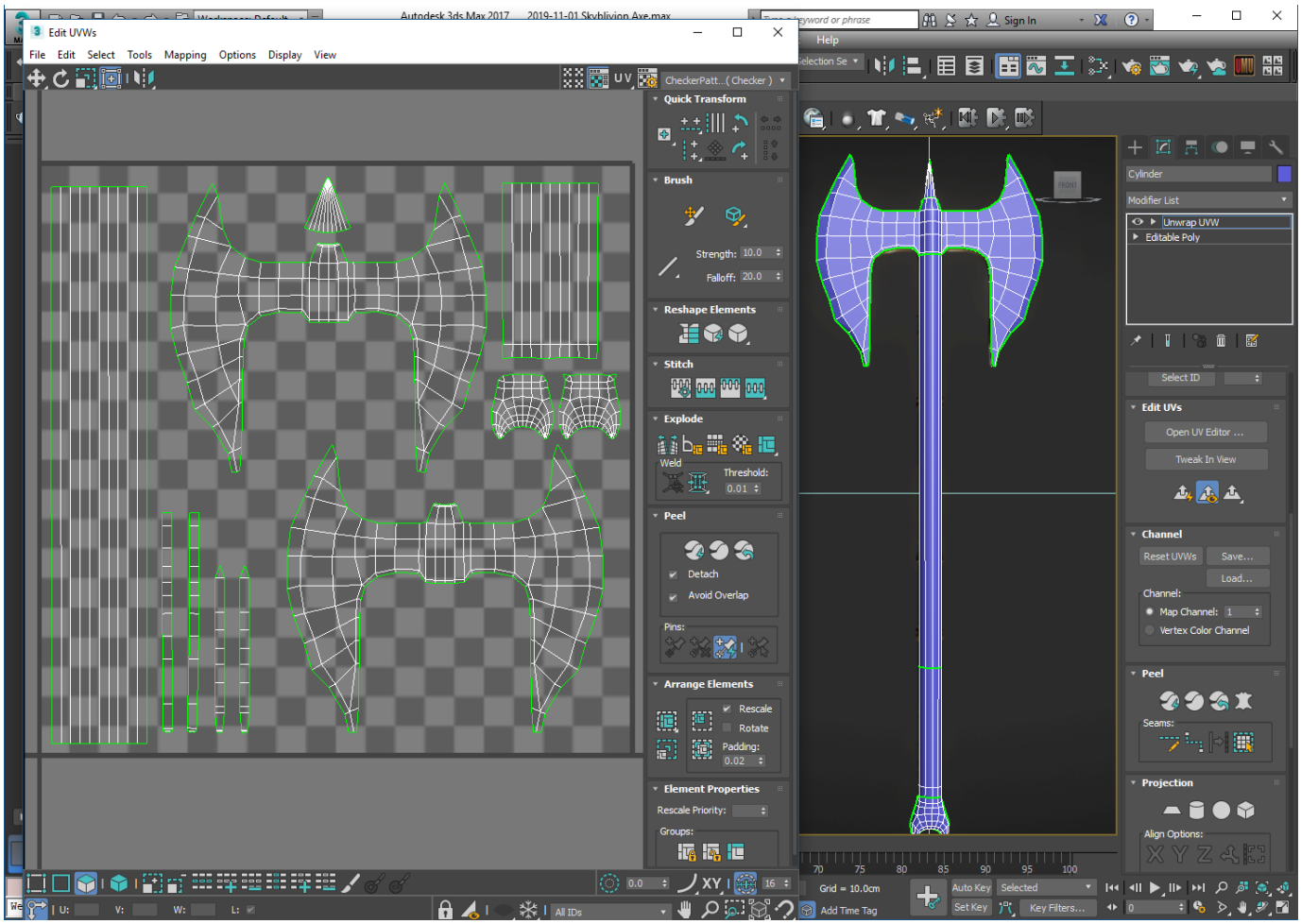
左边是参考图，右边是我做完的模型



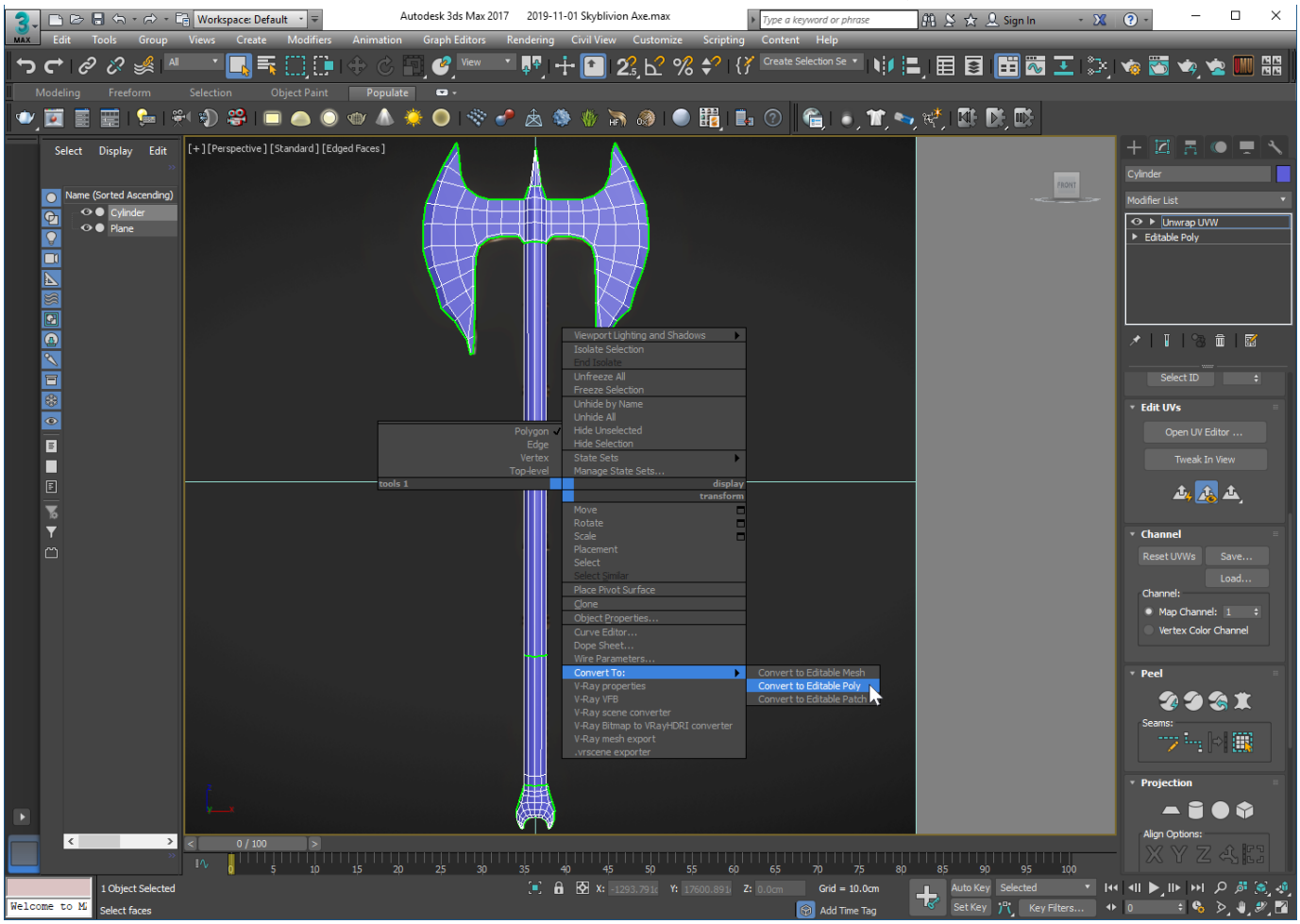
接下来我们要展 UV (Unwrap UVW)



把 UV 展好后的样子

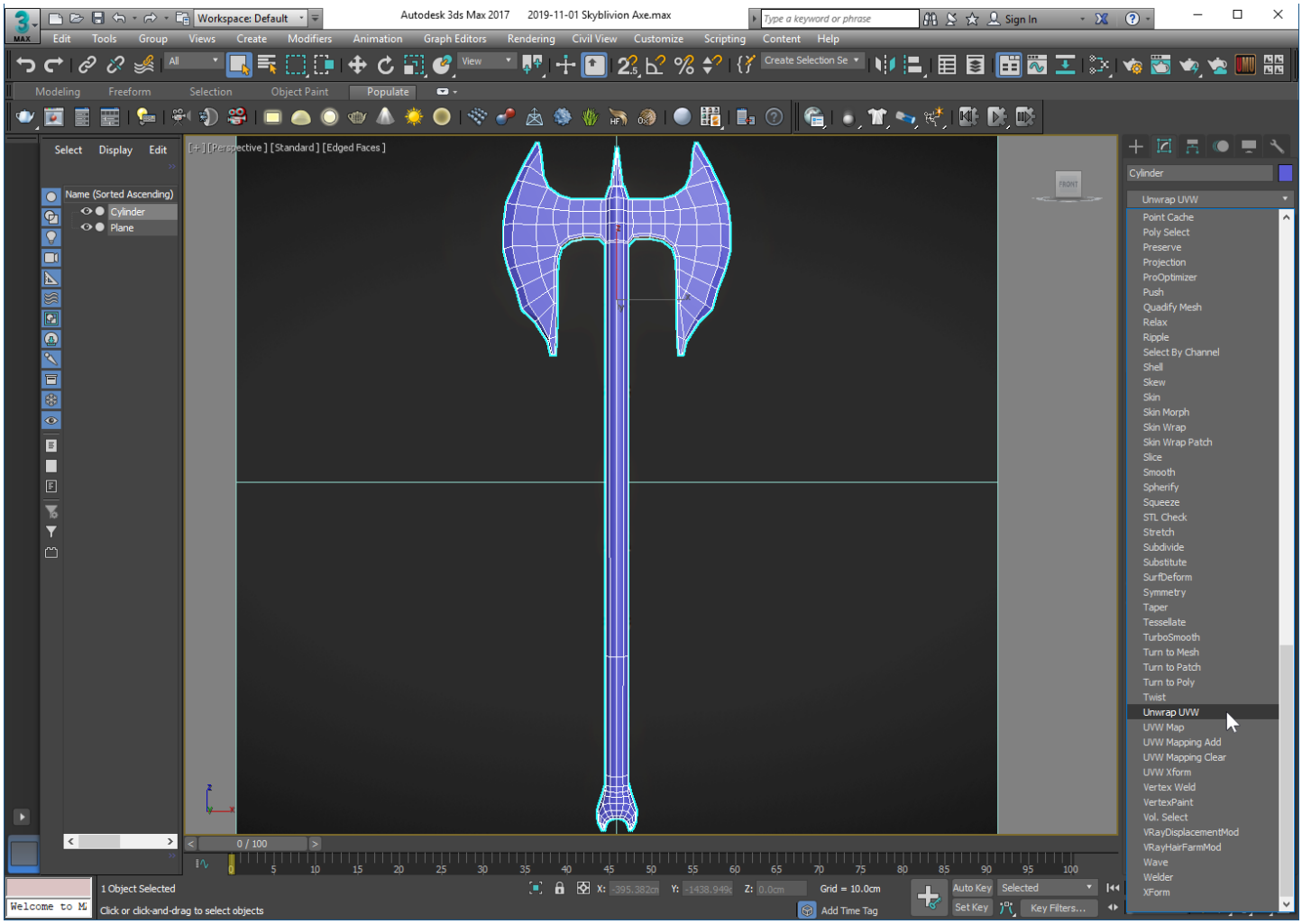


接下来我们把 UV1 储存起来，滑鼠右键 Convert To → Convert to Editable Poly

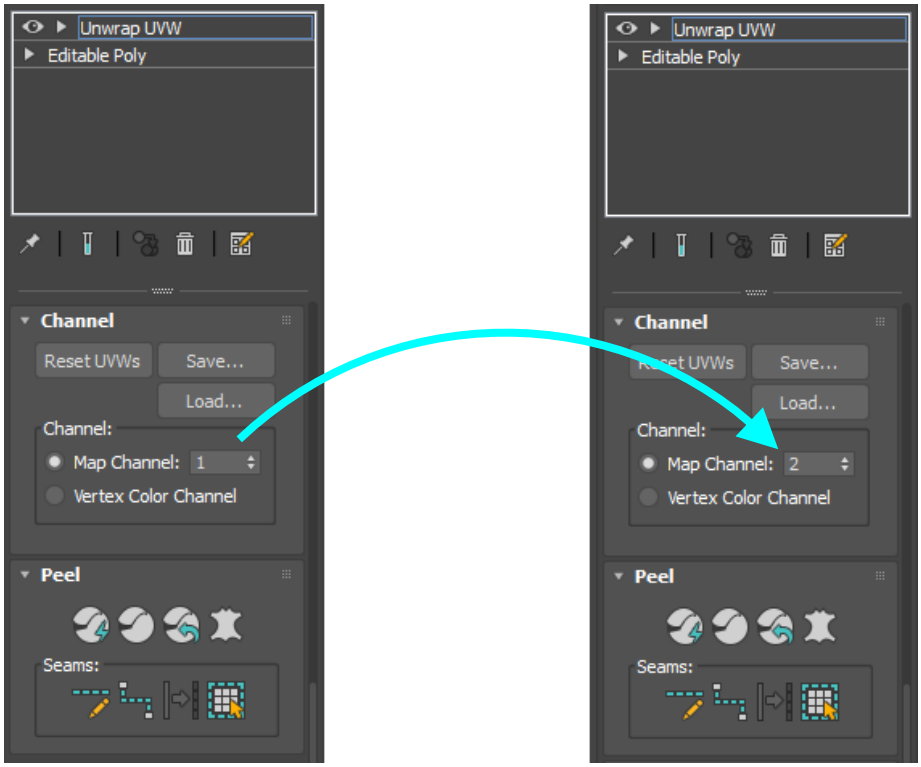


接下来我们又再次进入 Unwrap UVW，因为刚刚我们完成 UV1，也同时把 UV1 带到 UV2

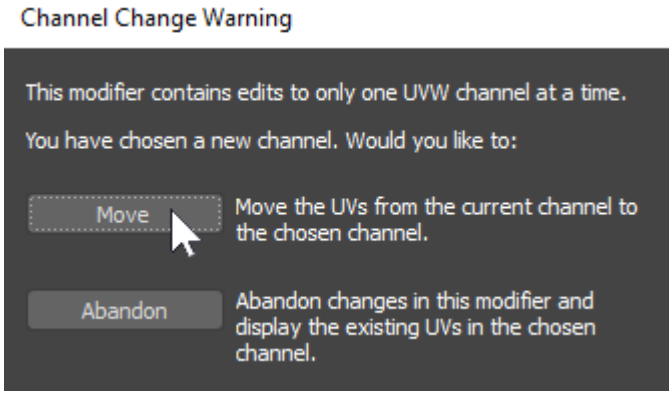
也就是 UV1 = UV2 (UV1 和 UV2 一摸一样)



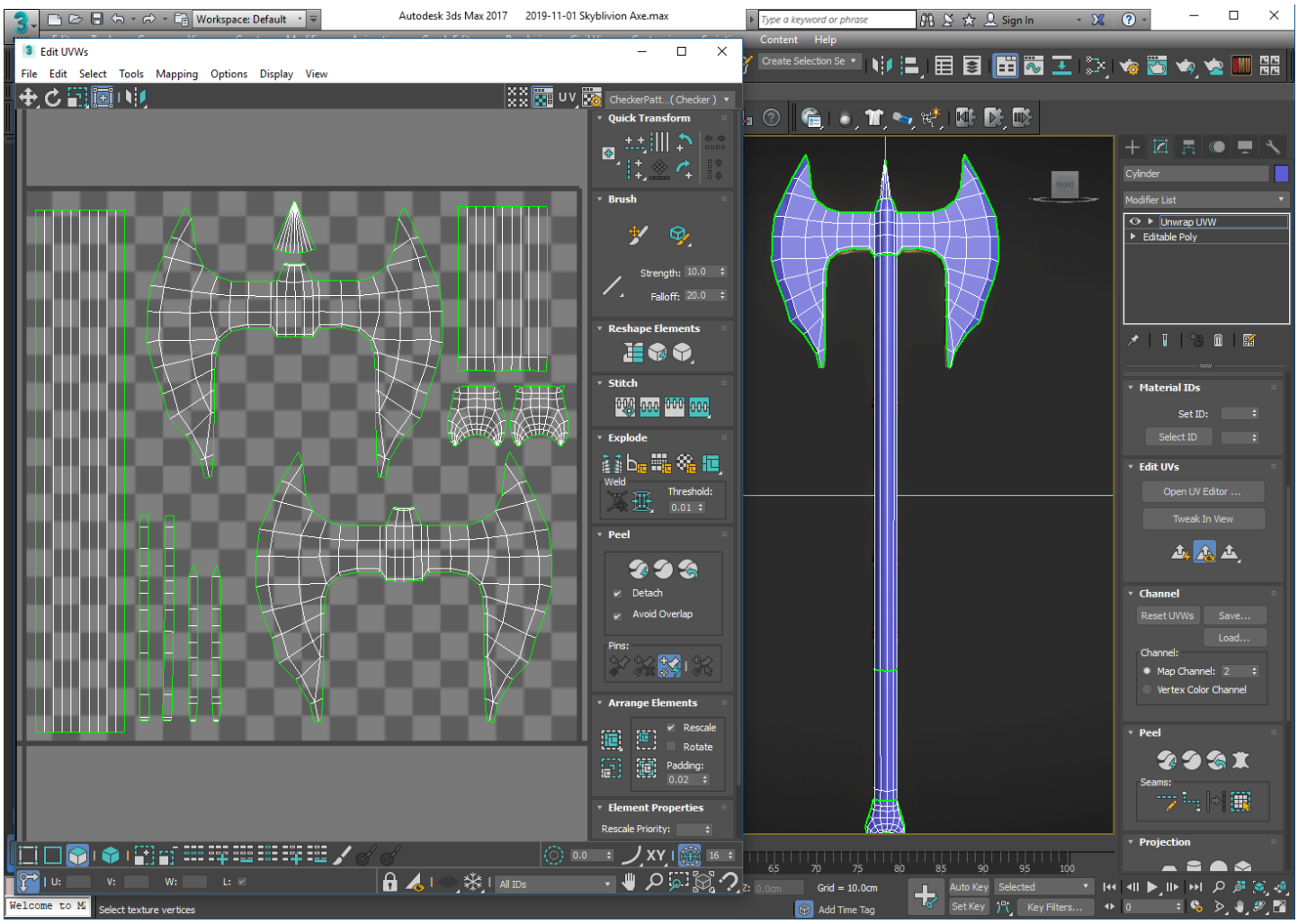
在 Map Channel，把 1 改成 2，就可以把 UV1 带到 UV2



当 MapChannel 改成 2 之后，按下 Enter 键盘键
银幕上就会弹出这个信息



滑鼠左键按下 Move，这样就能把 UV1 带到 UV2
我们看看现在的 UV2 一下

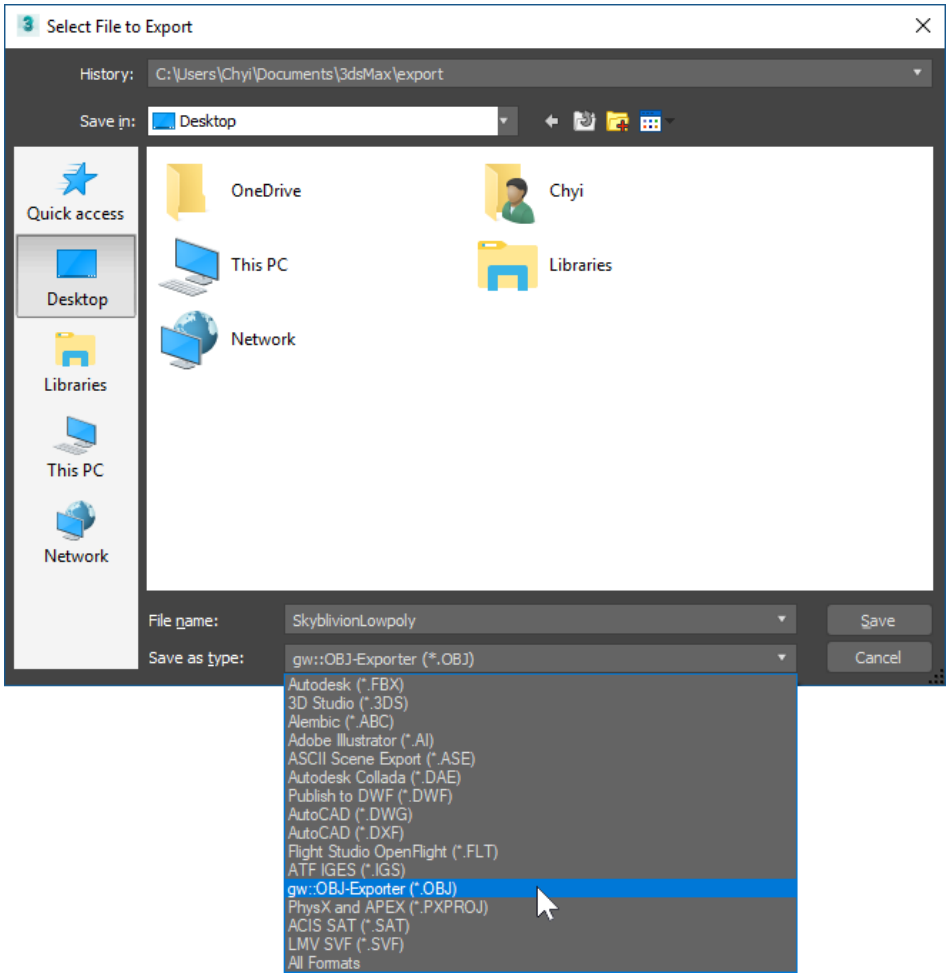


是不是跟 UV1 一摸一样呢?
我们再次把 UV2 储存起来，滑鼠右键 Convert To → Convert to Editable Poly
然后把斧头模型导出， export 成 .obj

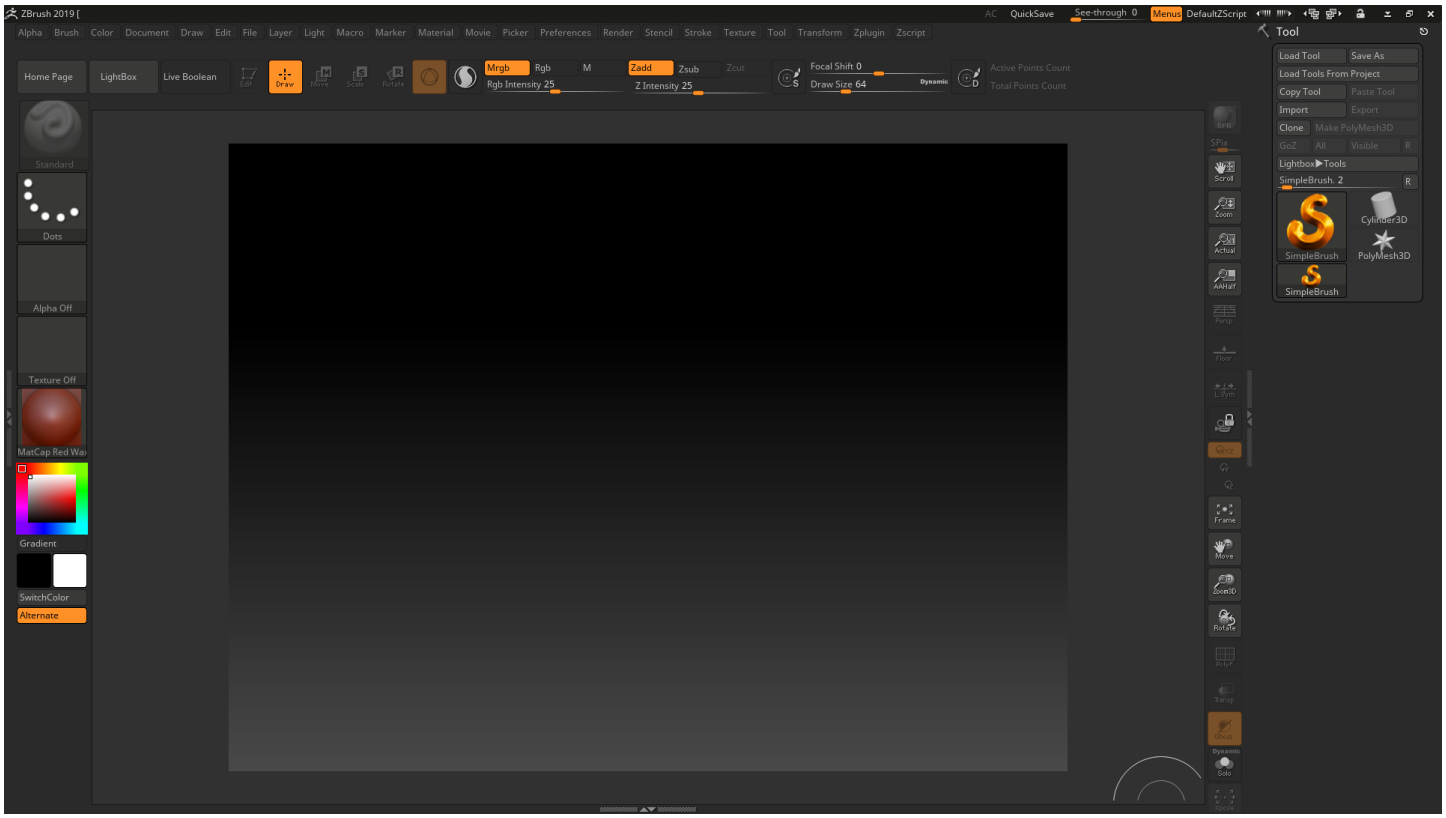
接下来我们要把斧头模型导出， export 成 .obj

可以的话，把 obj 取名斧头低模，或 AxeLowpoly

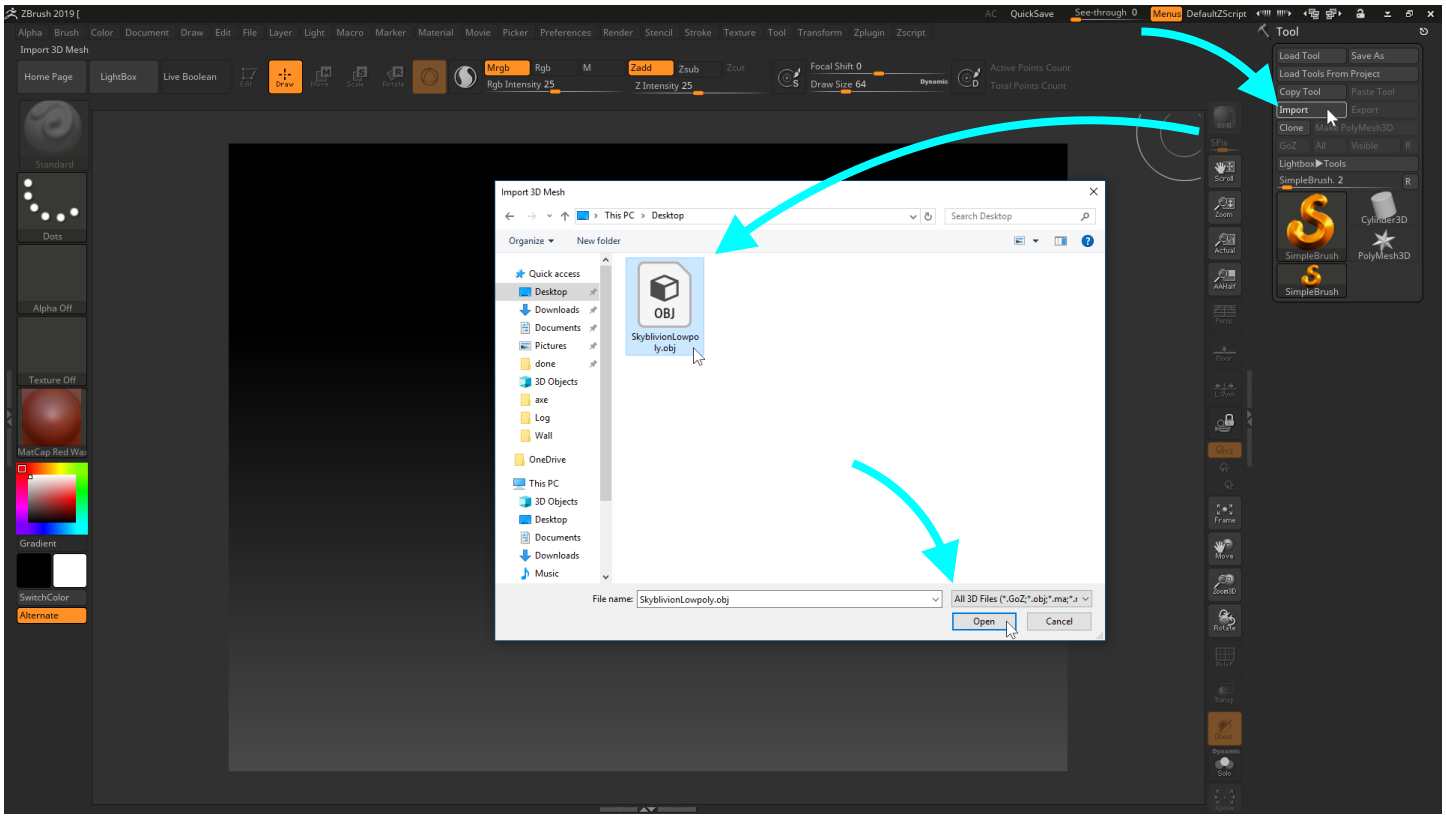
像我的，斧头名字，Skyblivion，低模(Lowpoly) = SkyblivionLowpoly



打开 Zbrush 软件

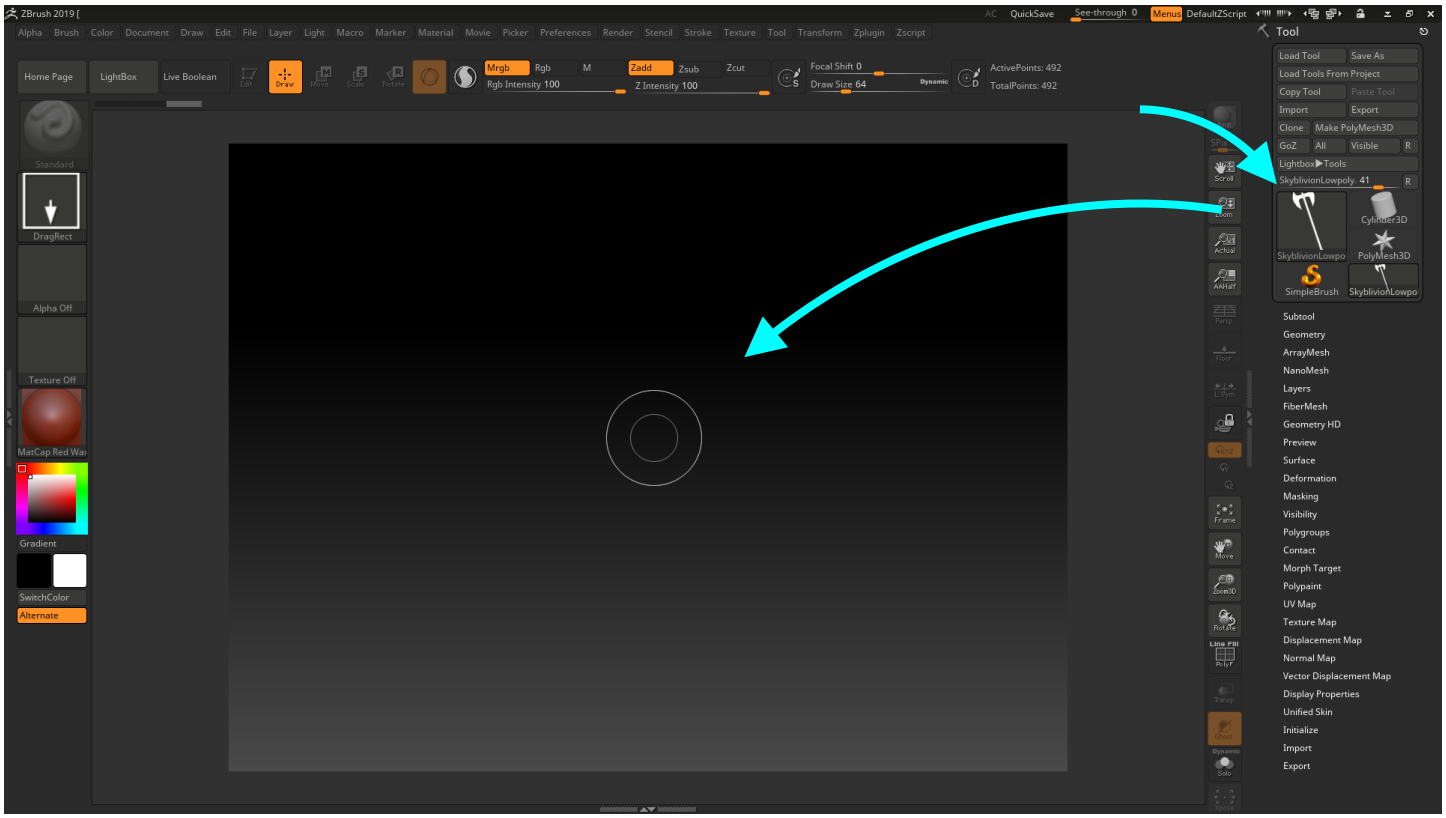


接下来我们要 import 刚刚完成的斧头，到 Zbrush 里面

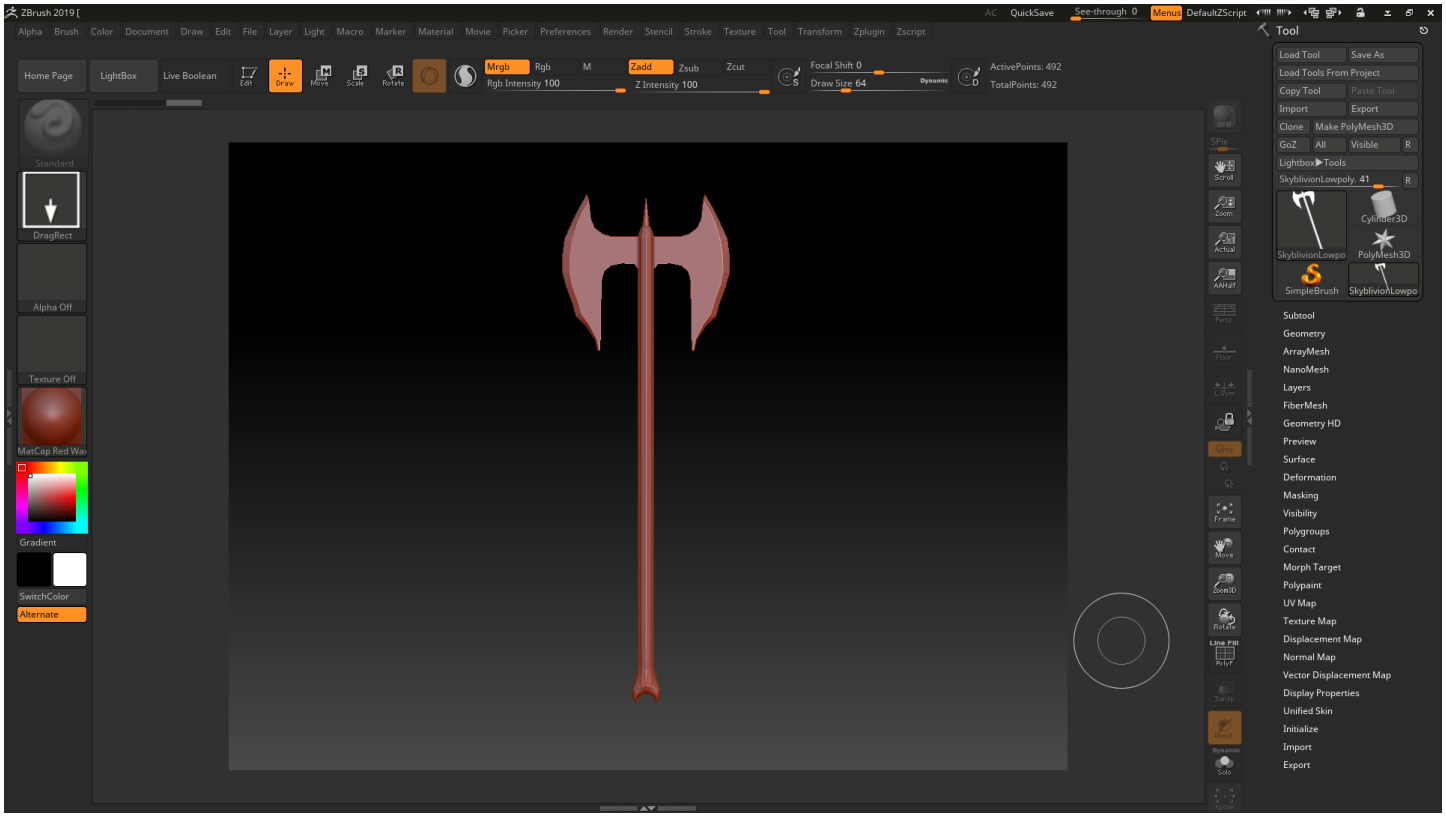


当你在右边看到你的斧头模型，就表示你的斧头已经 import 到里面了

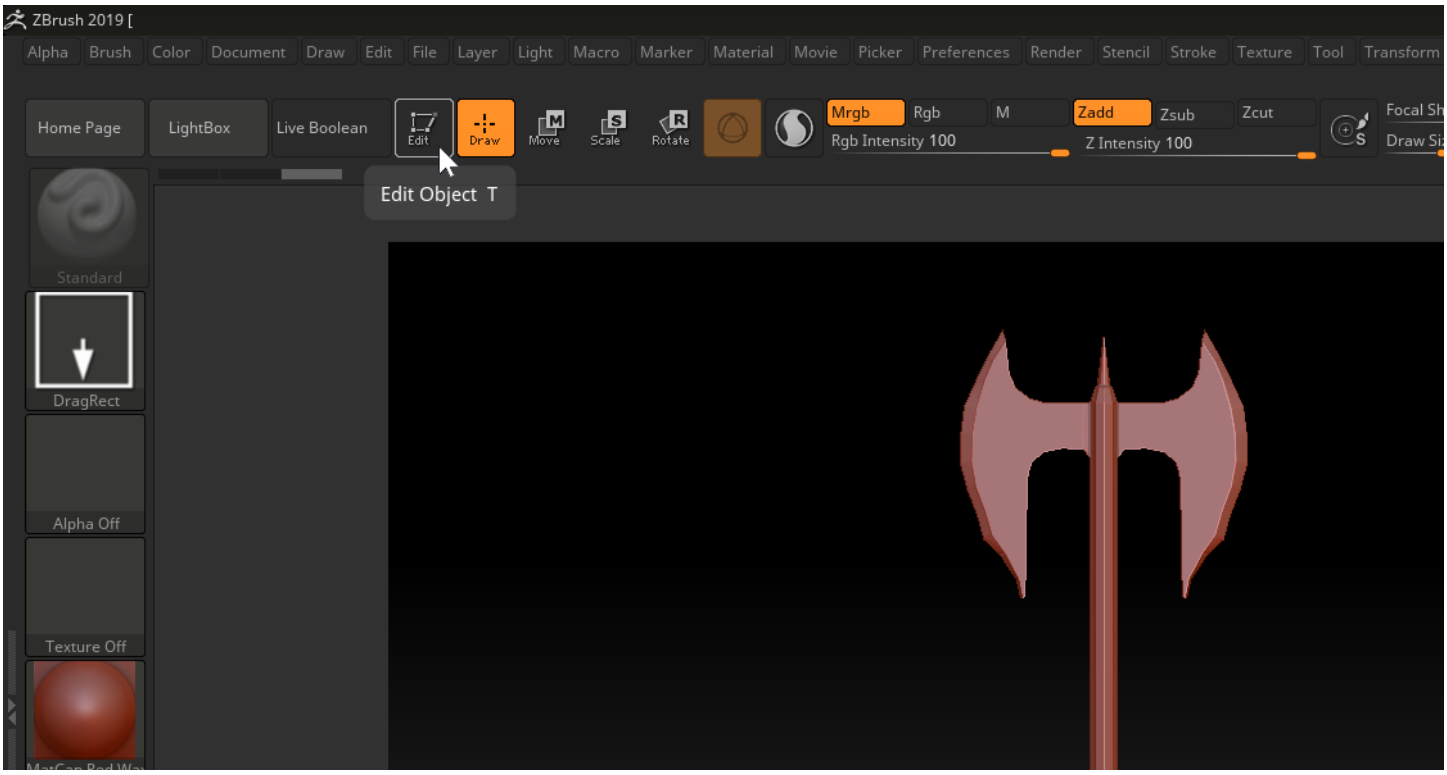
滑鼠放到银幕中间， Shift+ 滑鼠左键慢慢的拉出来你的斧头



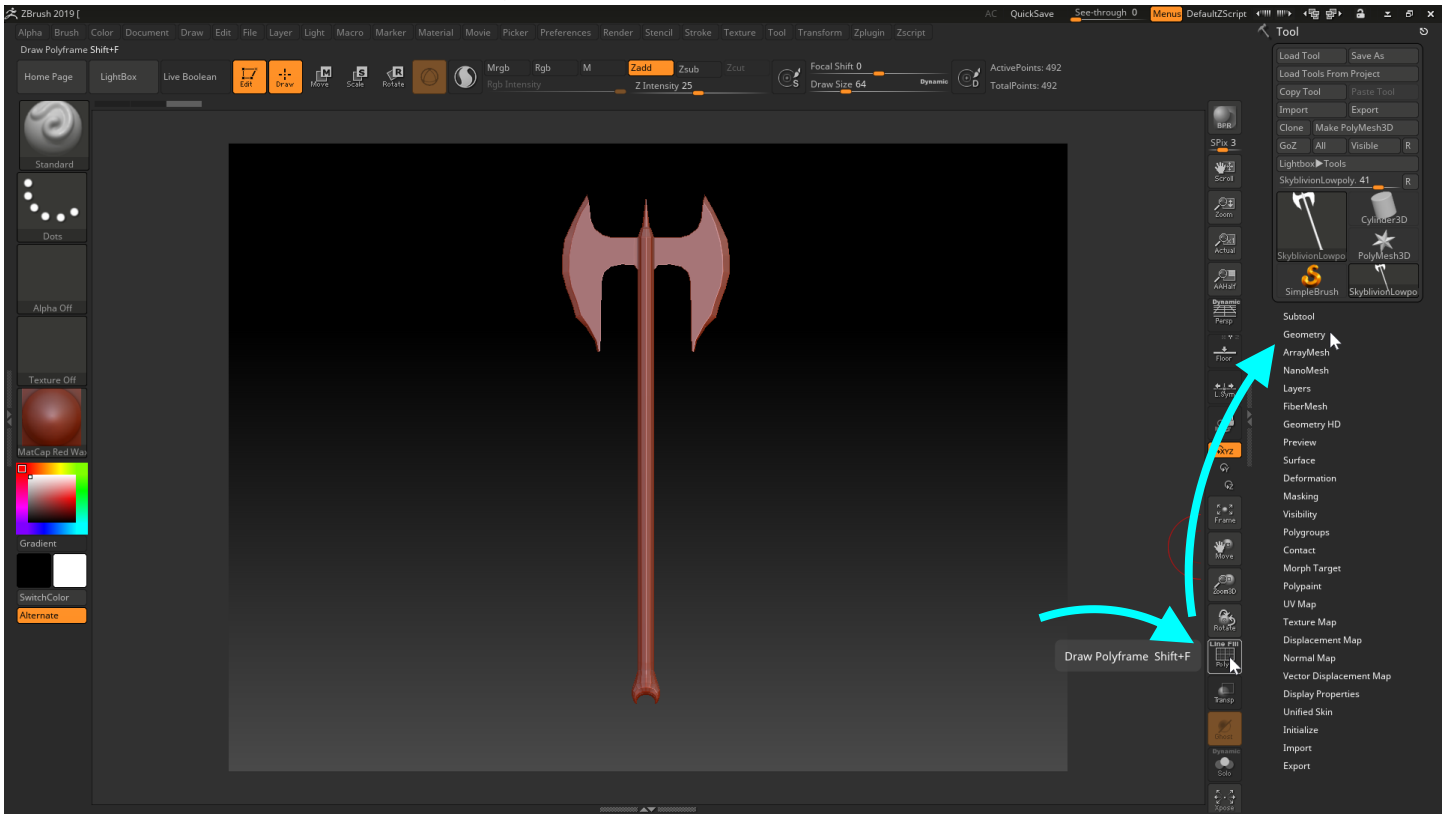
成功了



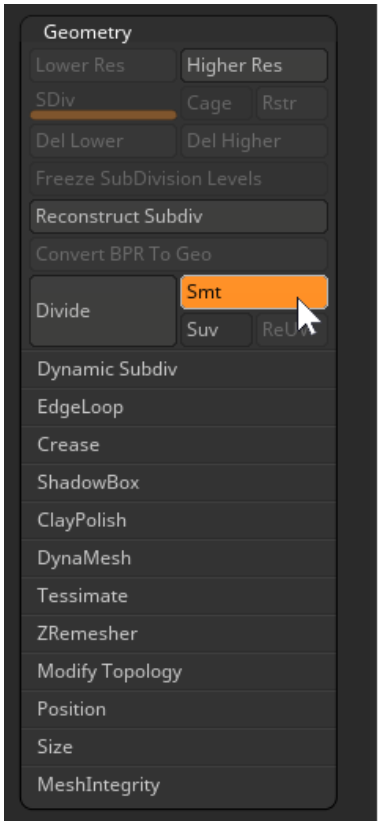
接下来我们按下 Edit

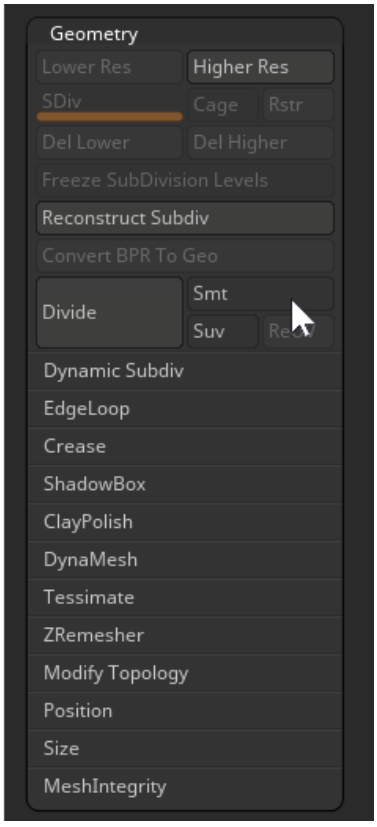


然后我们在右边按下 Line Fill 和 Geometry



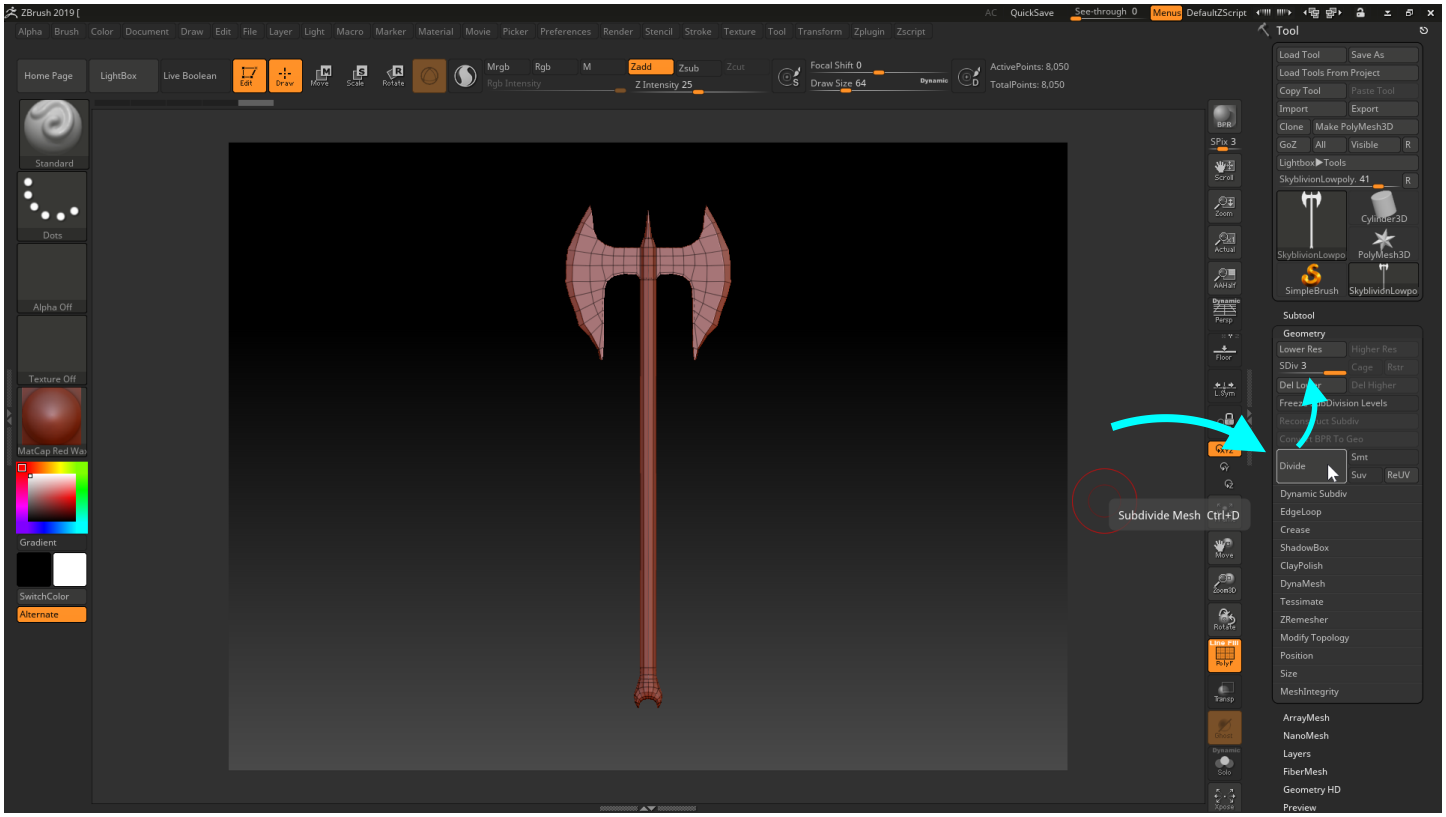
在 Geometry 的部分，把 Smt 给关掉



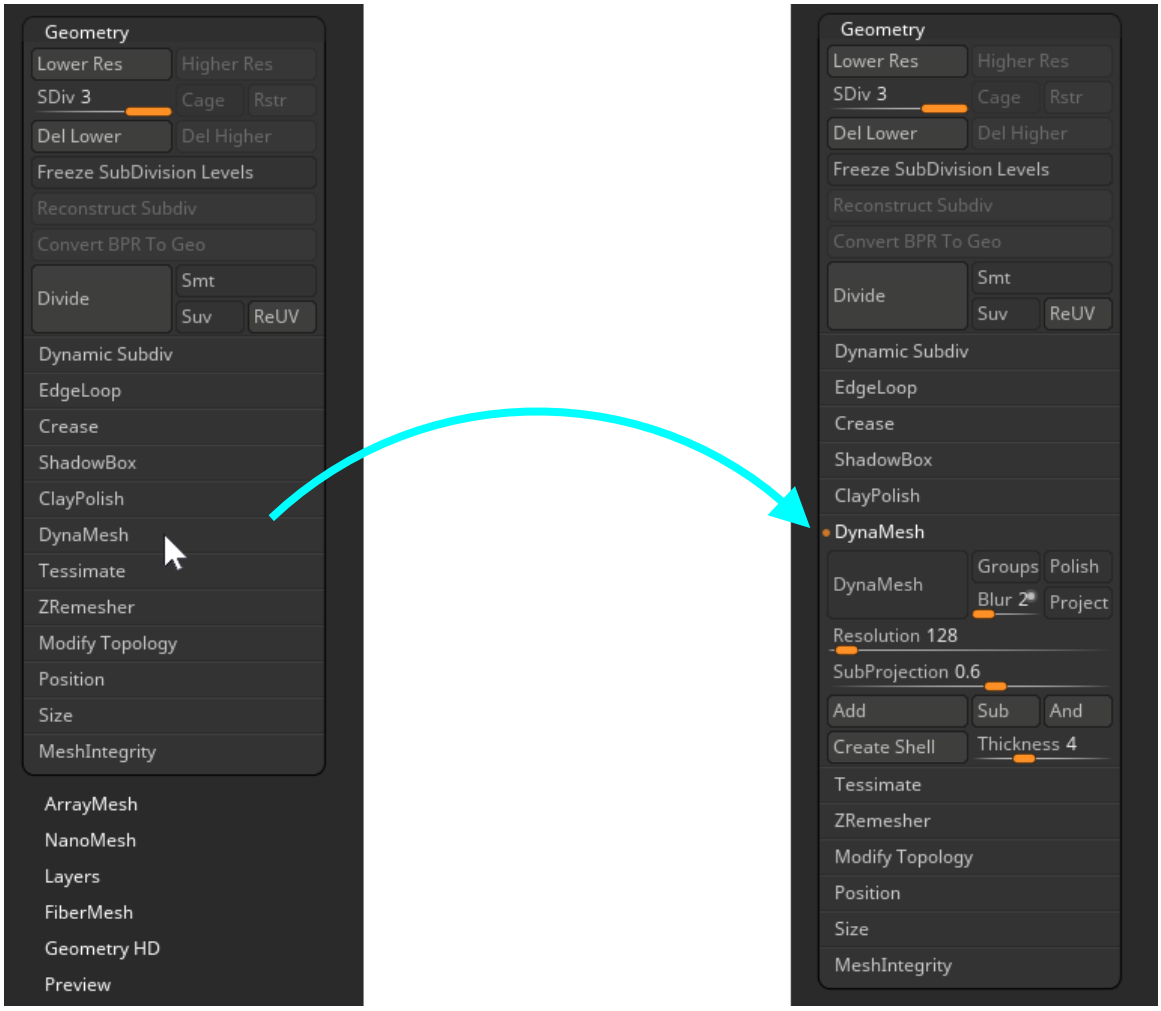


然后我们按 Divide 按 2 次，同时在 Lower Res 下面，可以看到 SDiv 3

不必需要做到 SDiv 4 以上，因为是多余的，而且模型会变动越来越高模，你的电脑可能很卡 (lag)

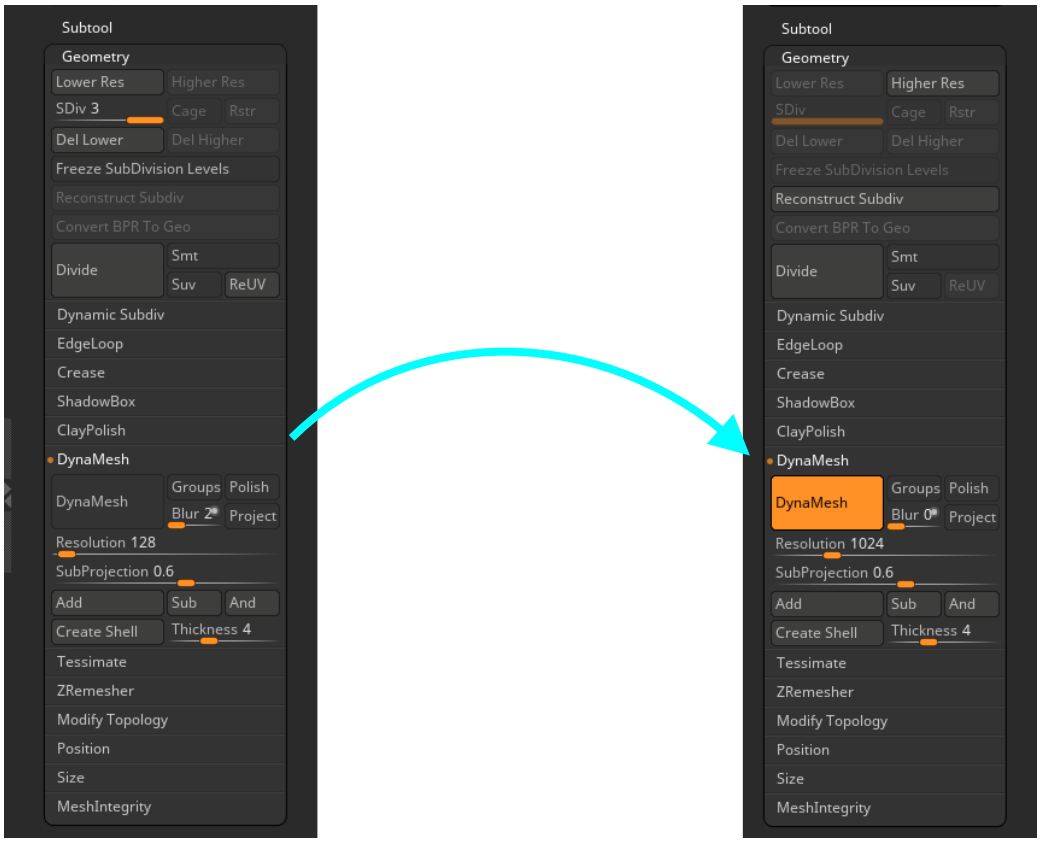


之后，我们按下 DynaMesh，把 DynaMesh 打开

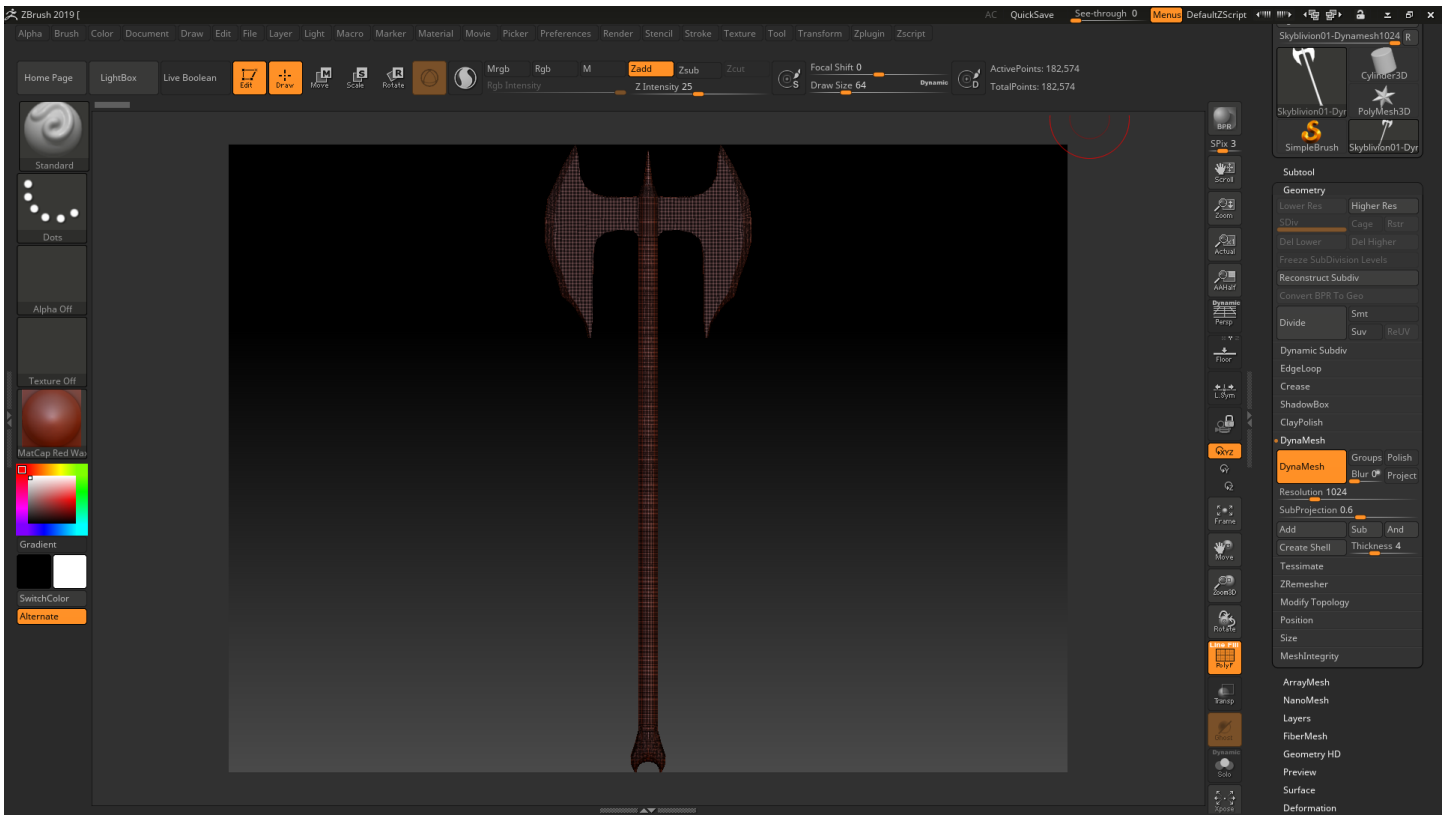


接下来跟着我的作法

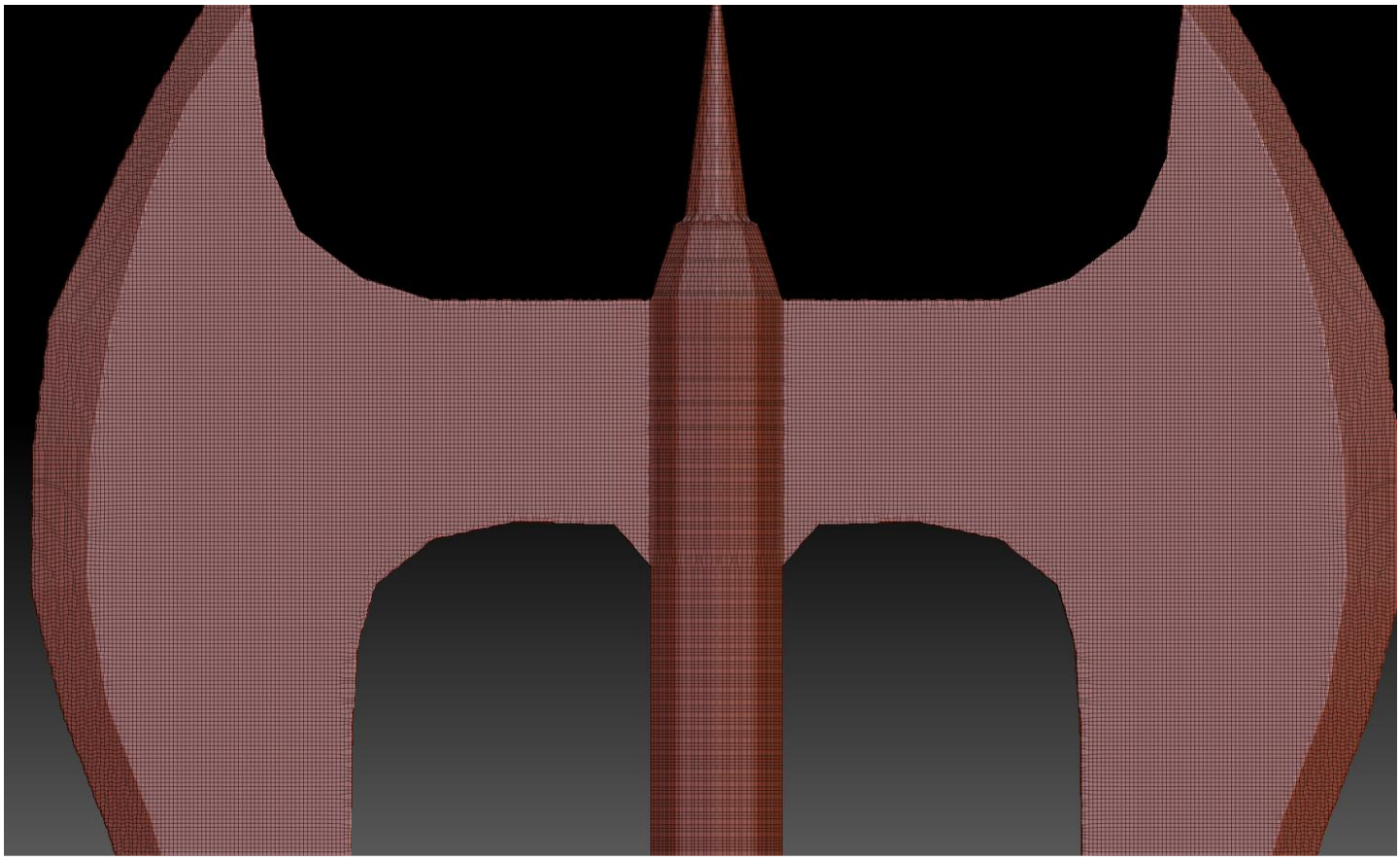
1. 先把 Blur 改成 0
2. 然后把 Resoluton 改成 512 (如果模型很小) 或 1024 (如果模型很大)
3. 按下 DynaMesh



你就可以看到你的斧头拥有非常整齐的线段



放大， Zoom in 可以看得清清楚楚里面的每一条线，非常的整齐，这表示你的模型非常成功

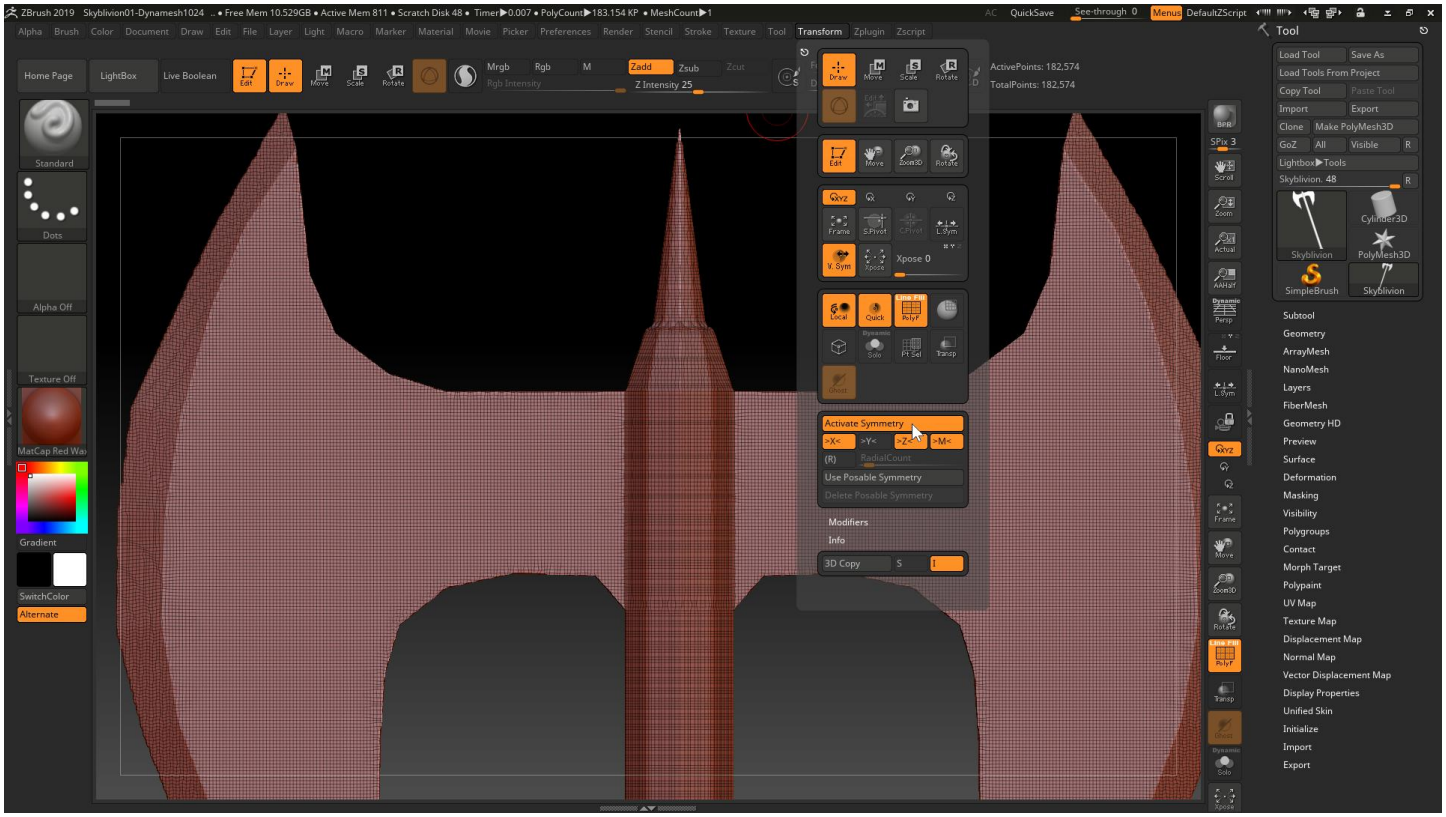


在还没有开始之前，每个人做的斧头模型都不一样
而我的斧头模型的 4 边面的形状都几乎一样

因此，我的斧头可以在 Zbrush 使用 Symmetry，来快速画完所有每一个斧头的面

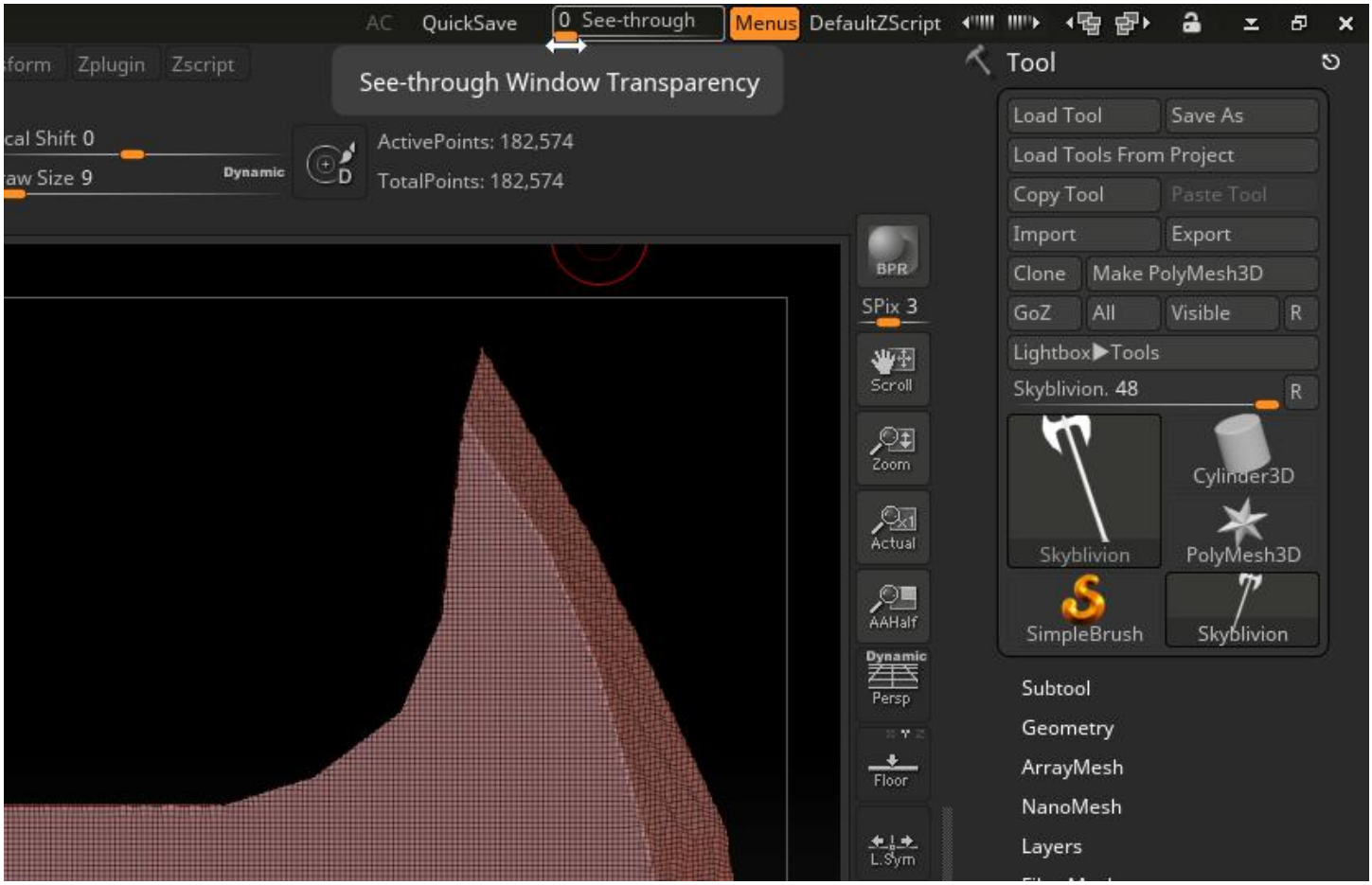
打开 Transform 里，按下 Activate Symmetry

接下来我只需要画其中一个面，其他的面也一起画了

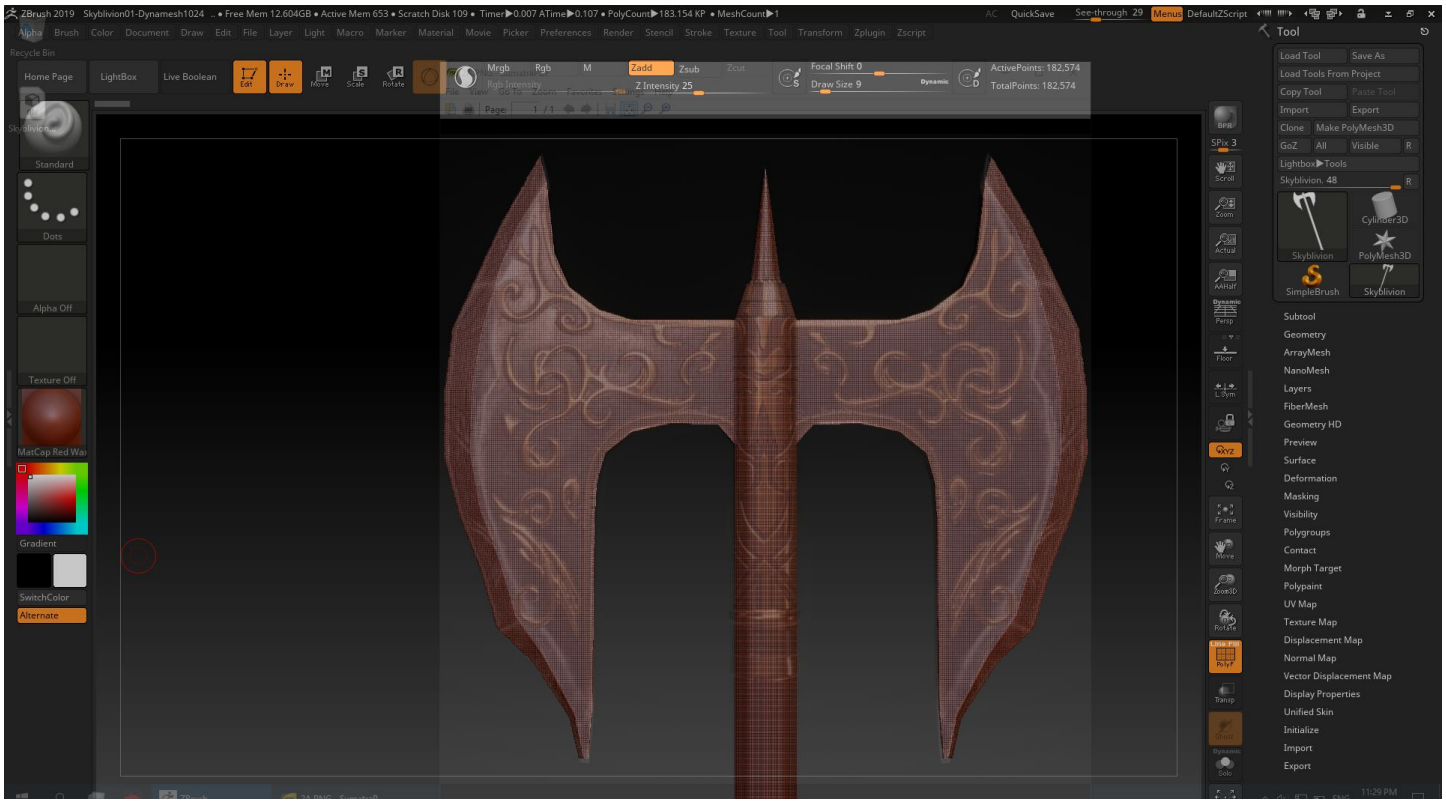


在右上角可以把 Zbrush 调透视都，也就是把我们想要画的图片放在后面，

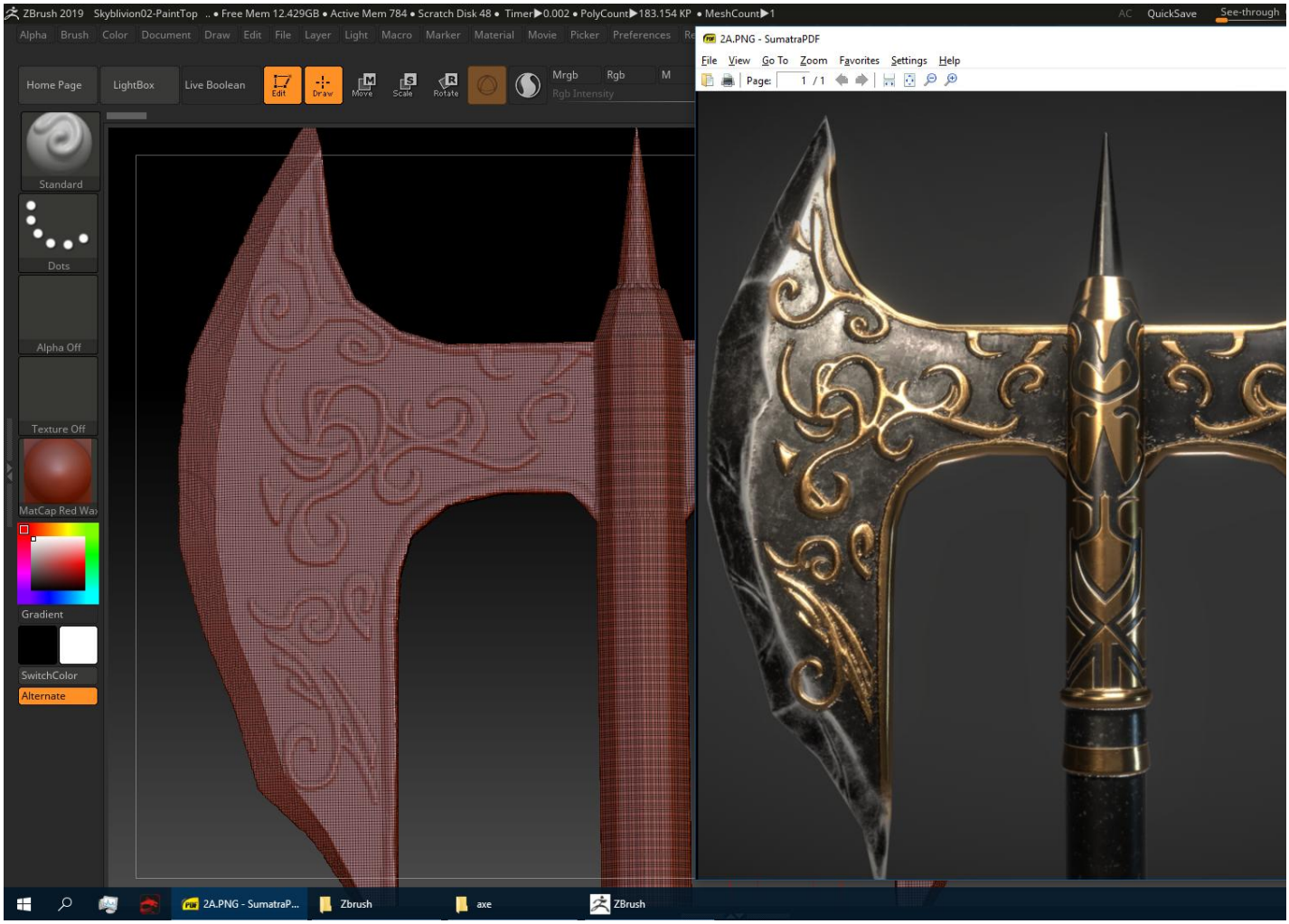
然后使用 See through 把 Zbrush 变透明



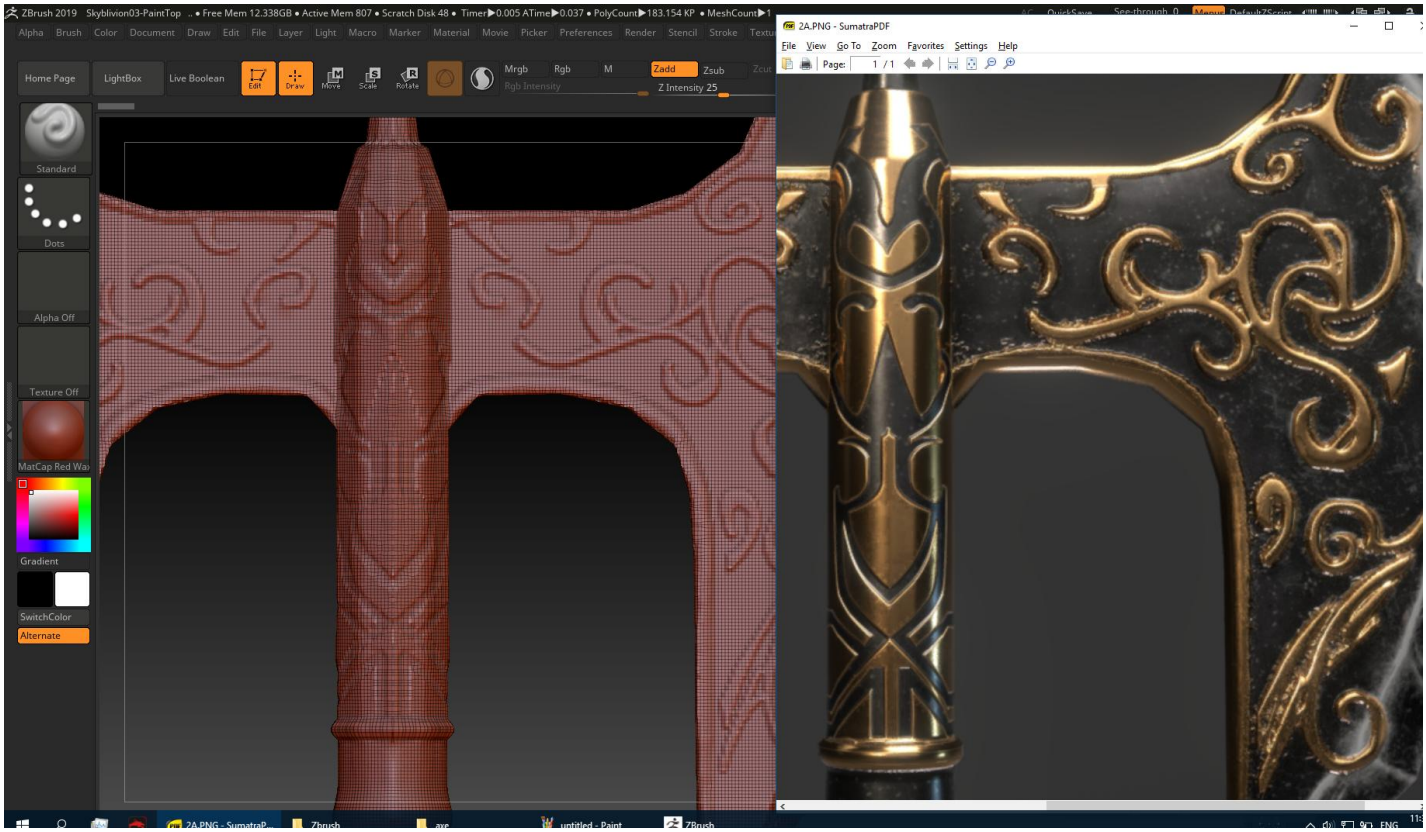
调到你想要的透视程度，就可以跟着参考图画到一模一样了



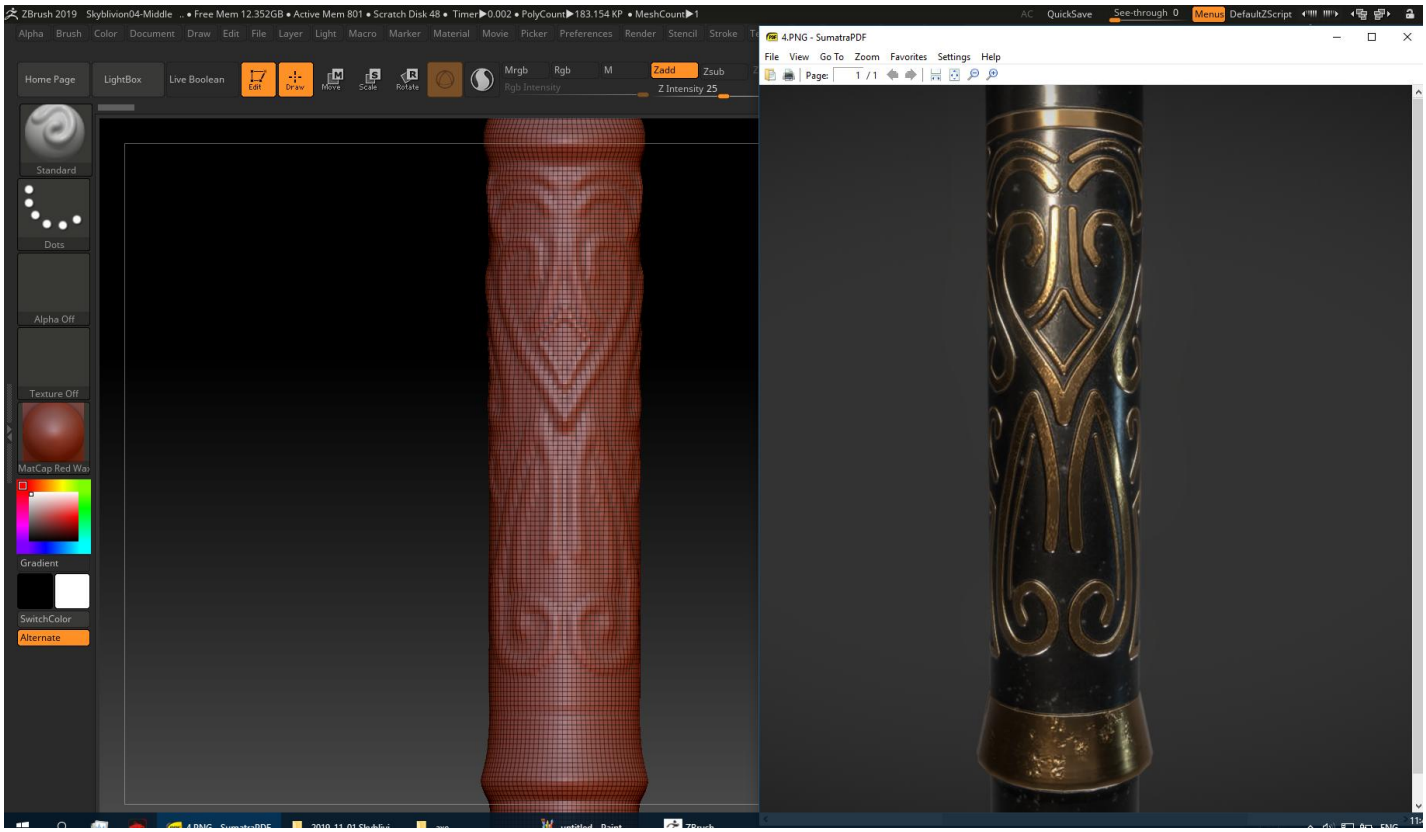
看看我在斧头面部画出来一模一样



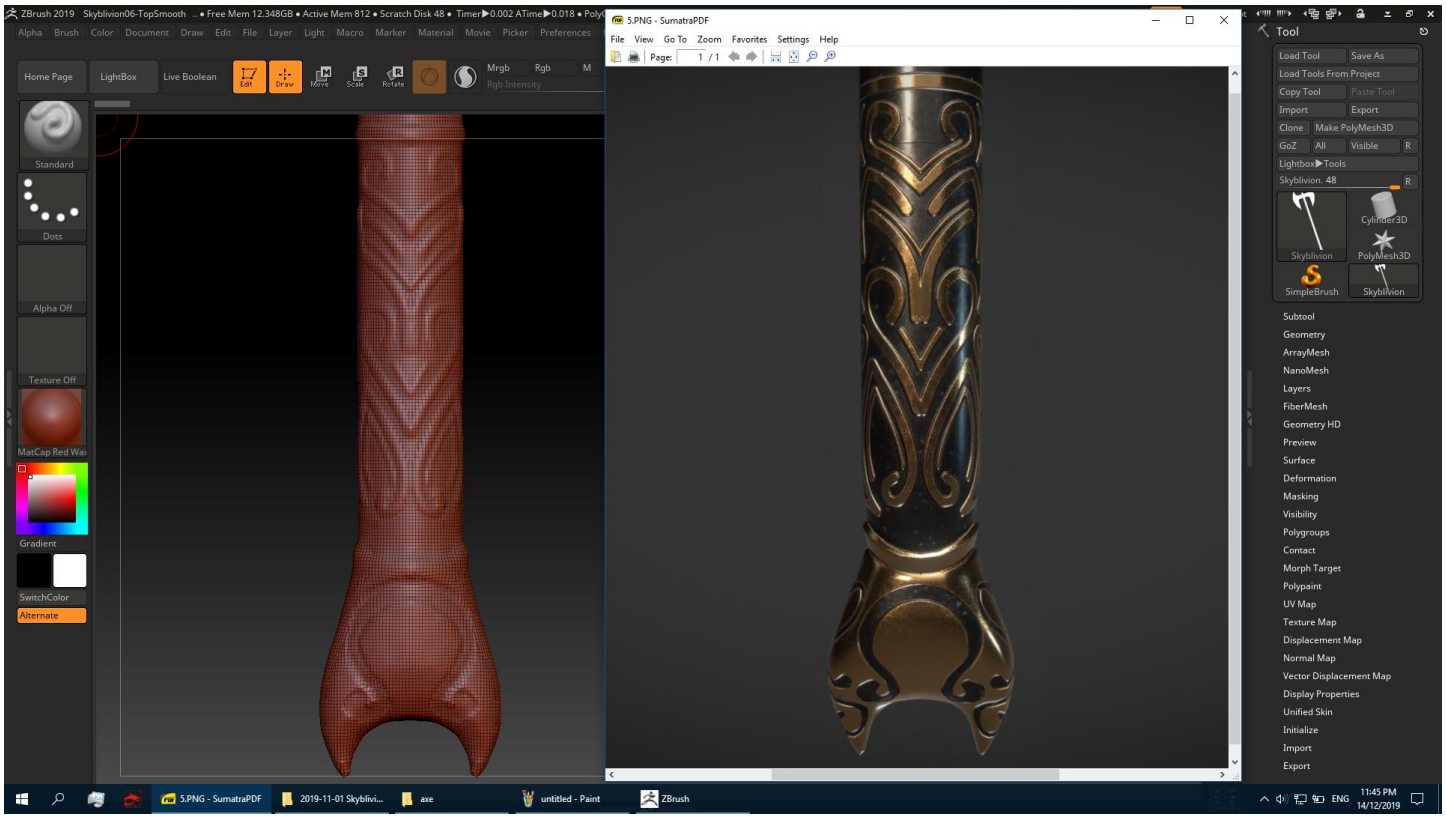
接下来把斧头的中心也好好画起来



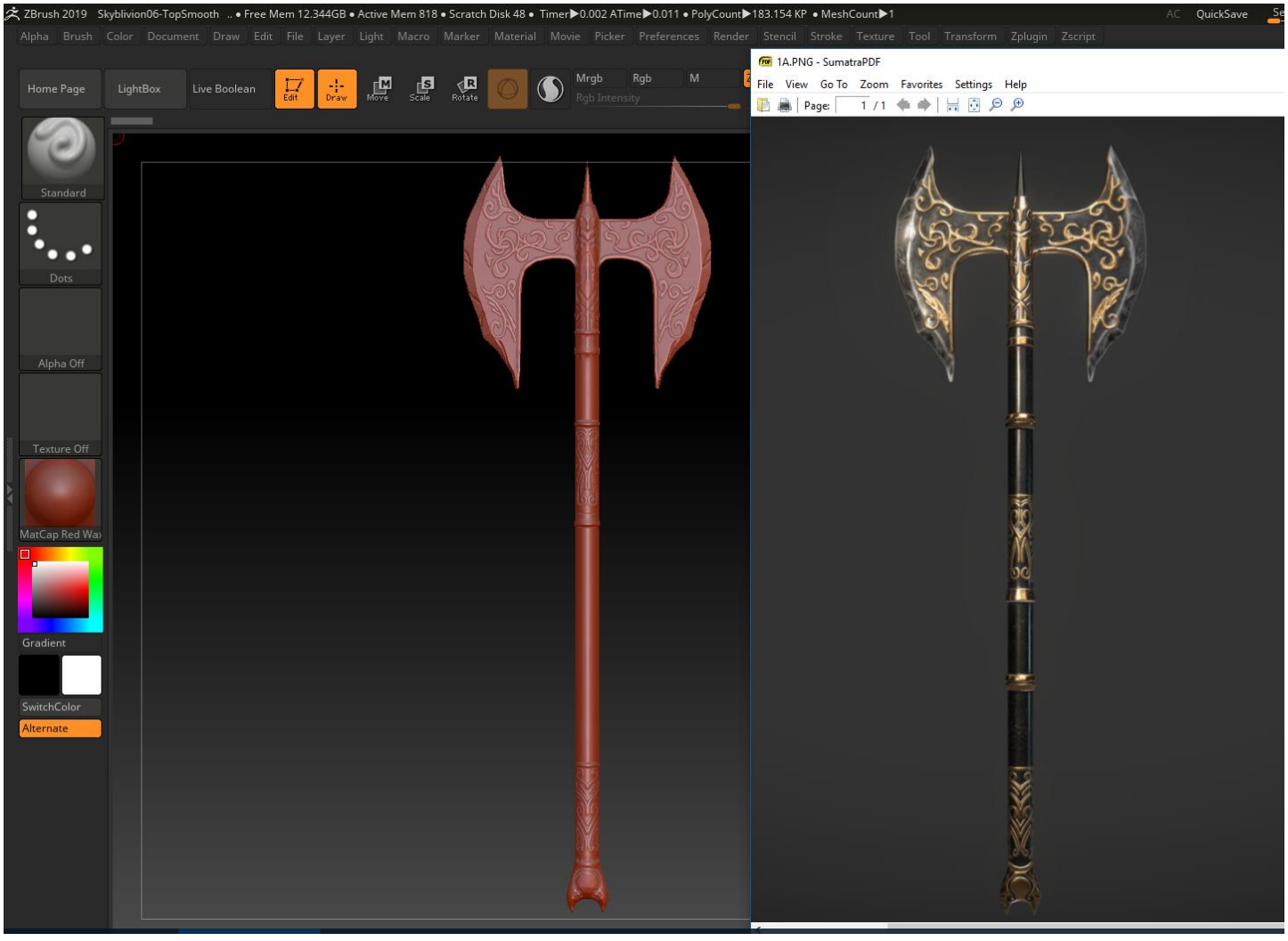
厉害吧，简直是一模一样



这也是斧头的底部



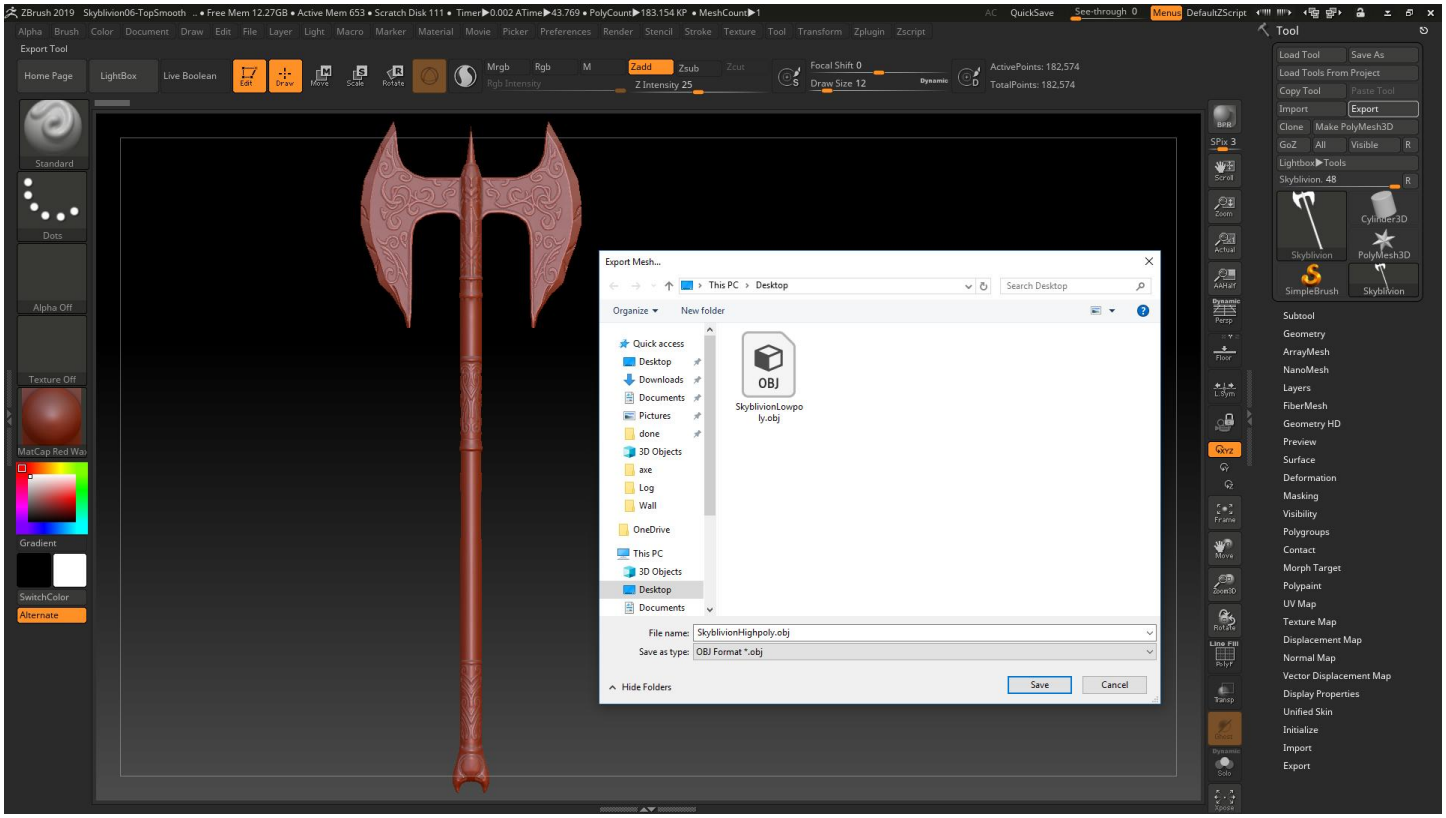
画完之后，就可以看看我完成的斧头 (左边) 和参考的斧头原图 (右边)



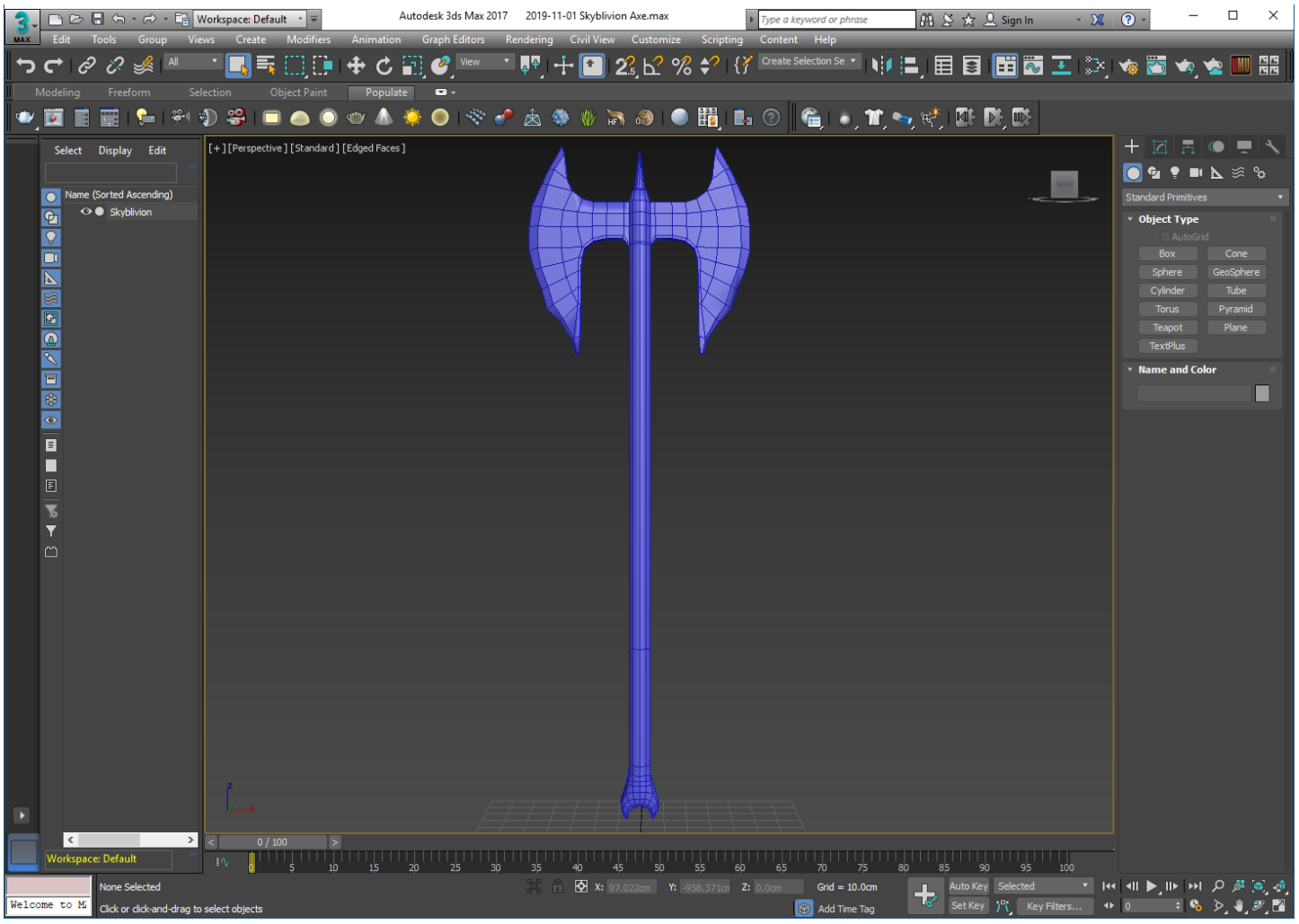
完成之后，我们可以把斧头 Export 出来

记得，这一次要把 .obj 另名成 斧头高模 或 AxeHighpoly

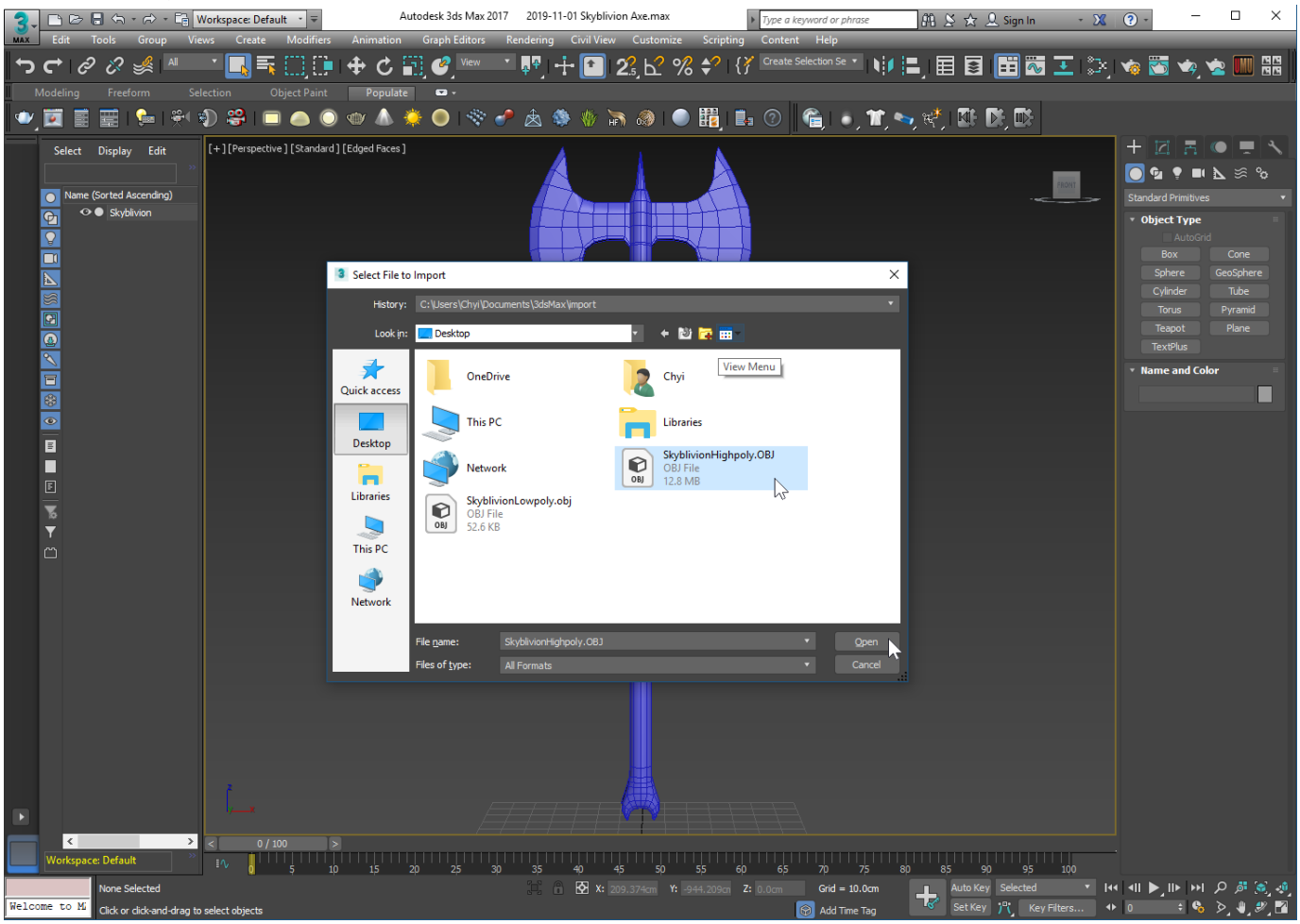
像我的: SkyblivionHighpoly.obj



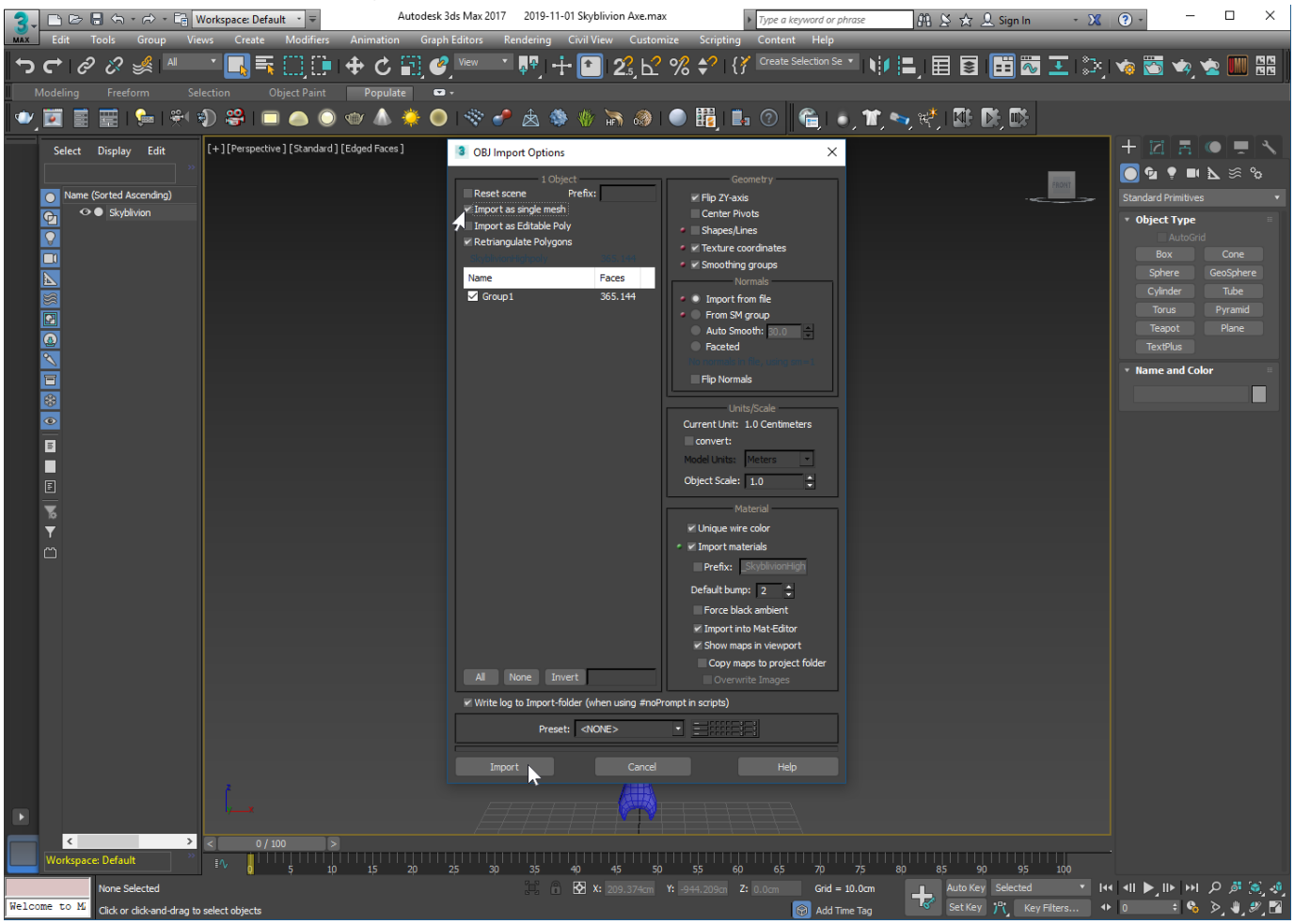
然后我们再次打开 3ds Max 软件



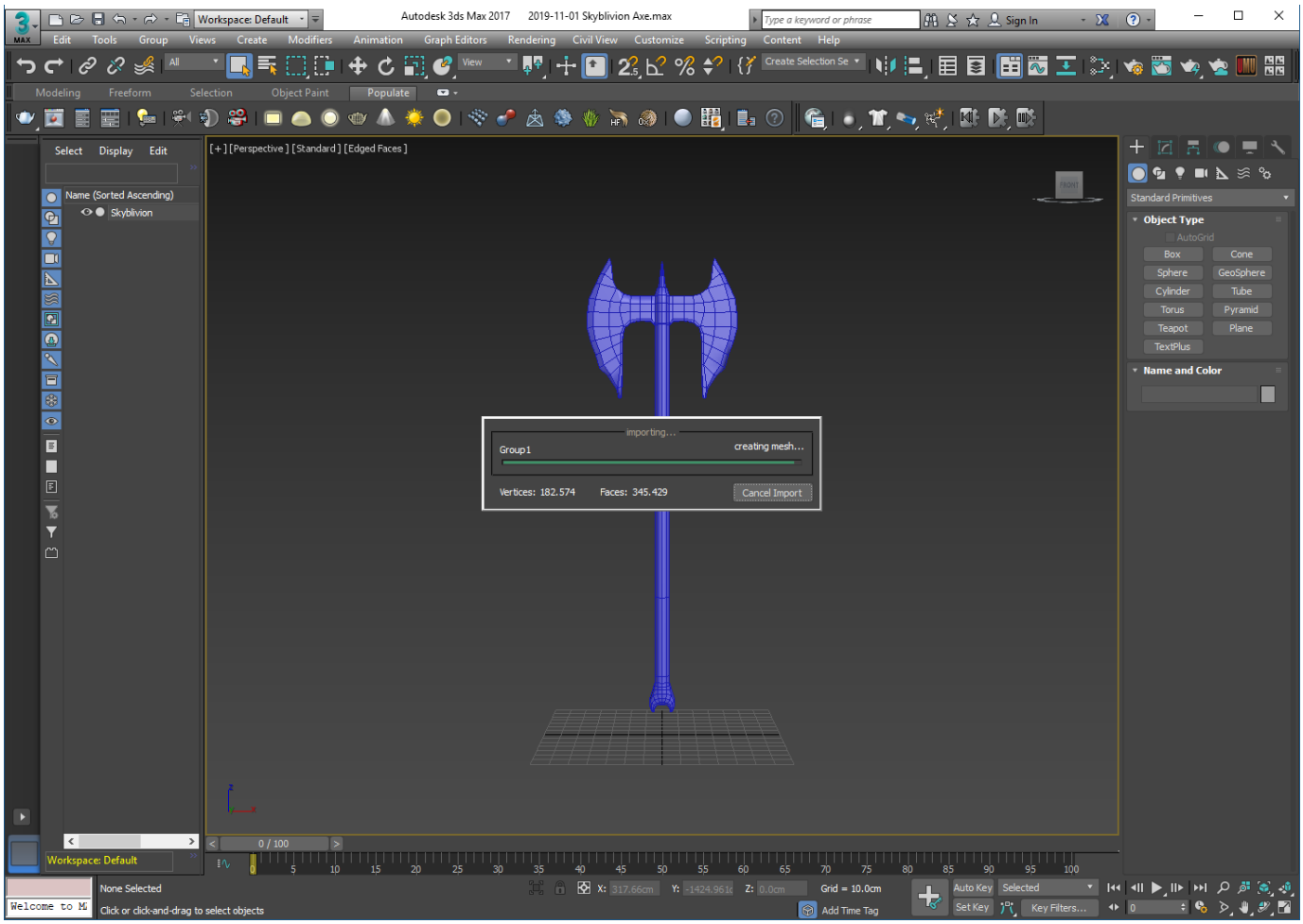
把高模斧头 obj 导入到 3ds Max 里

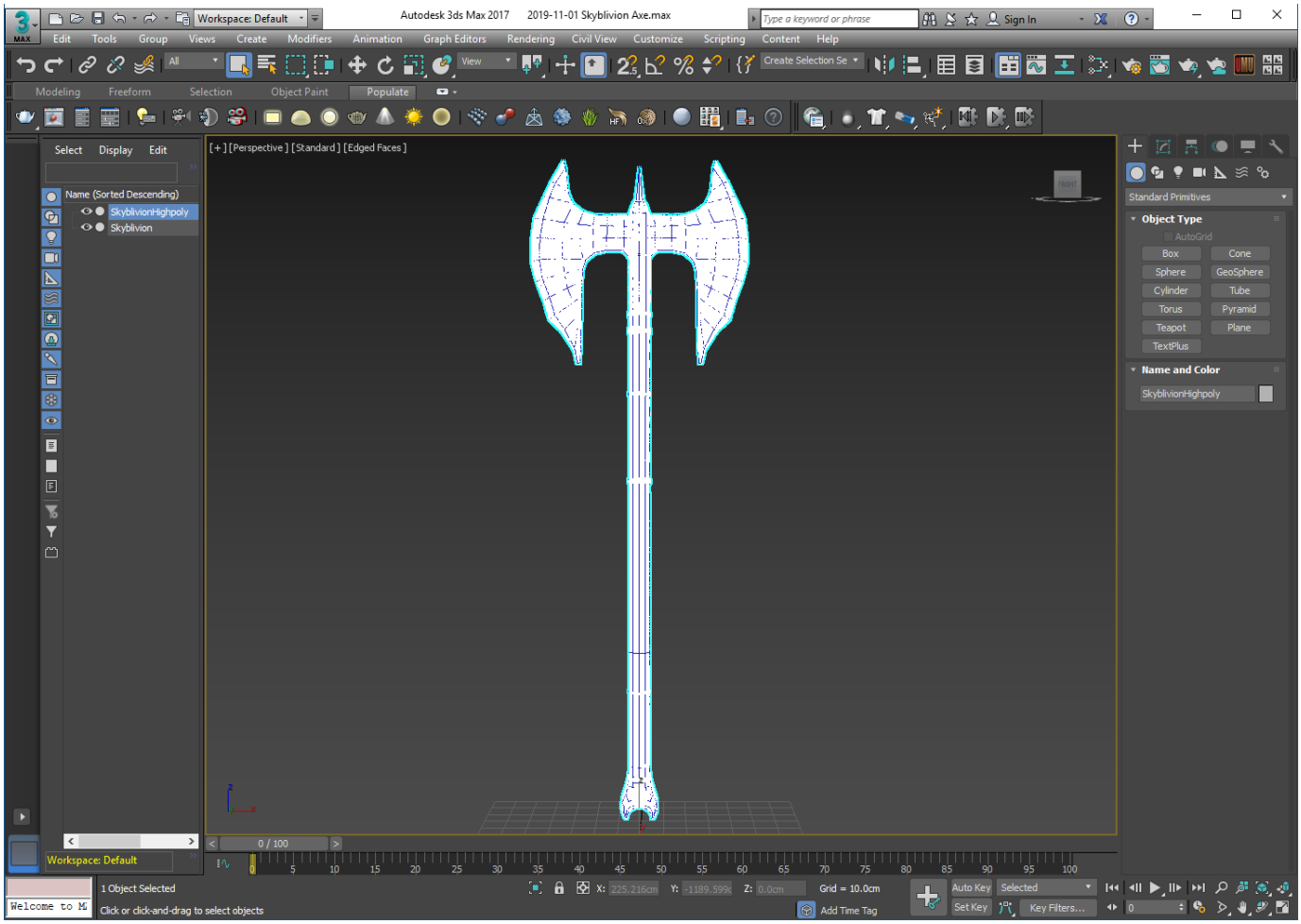


记得一定要打勾 “Import as single mesh”



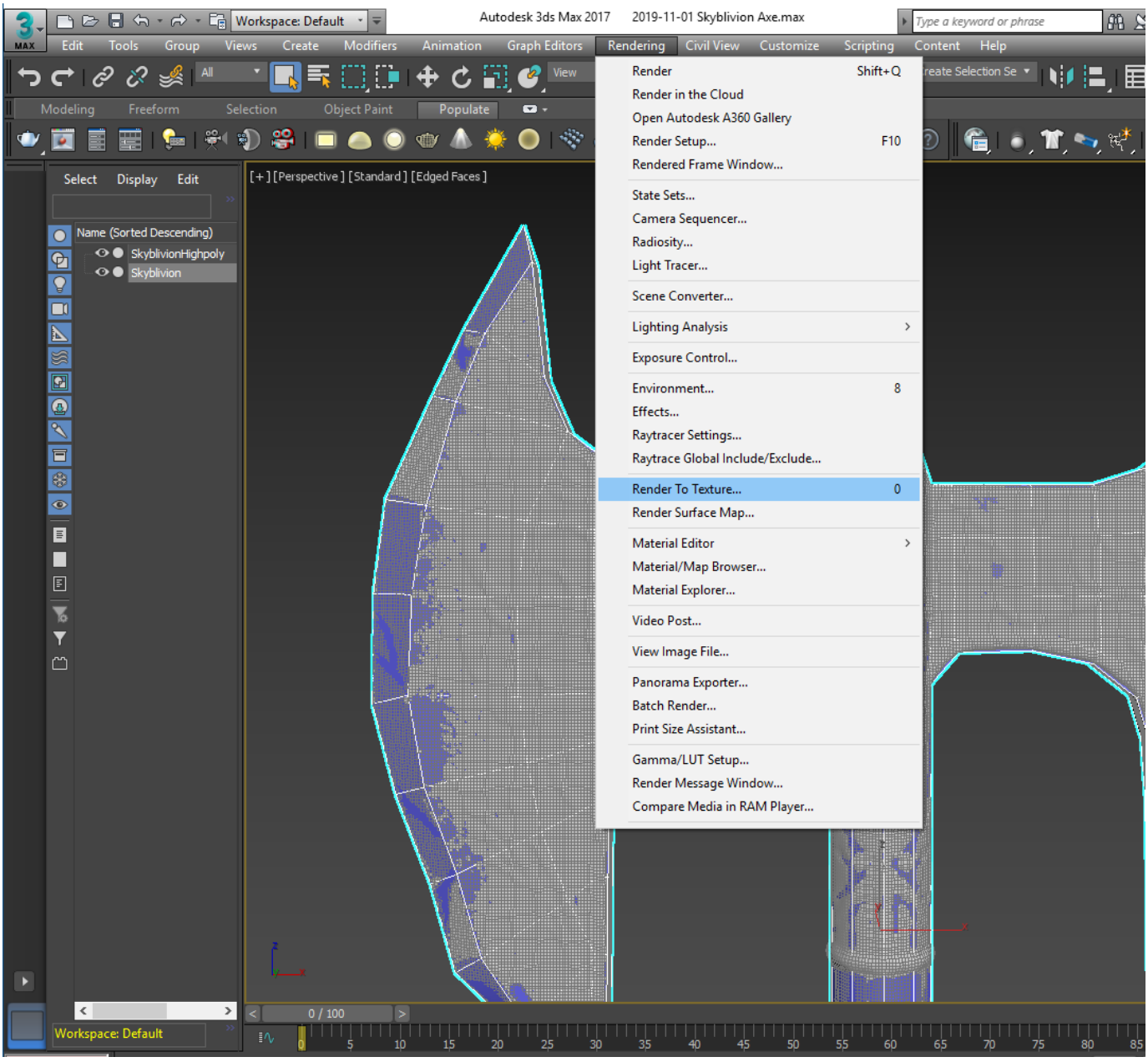
Import 过程，稍微耐心一点



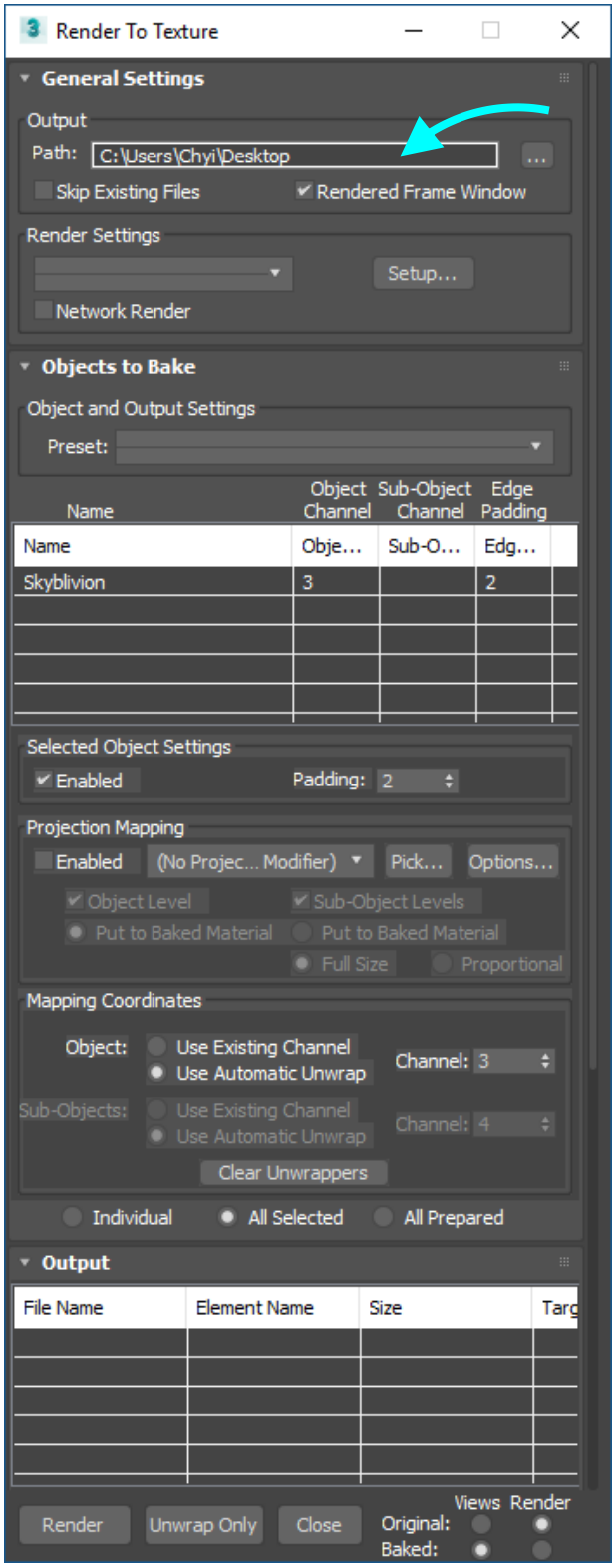


在还没有开始渲染，请大家把所有其余的软件给关掉
这包括 Google Chrome, FireFox, Opera, Internet Explorer, Edge, Zbrush, Unreal Engine, Substance Painter, Microsoft Office 和所有任何电脑电玩!! 一定要关掉!! 否则 都是 3ds Max 100% crash!! 甚至会造成电脑严重当机!!

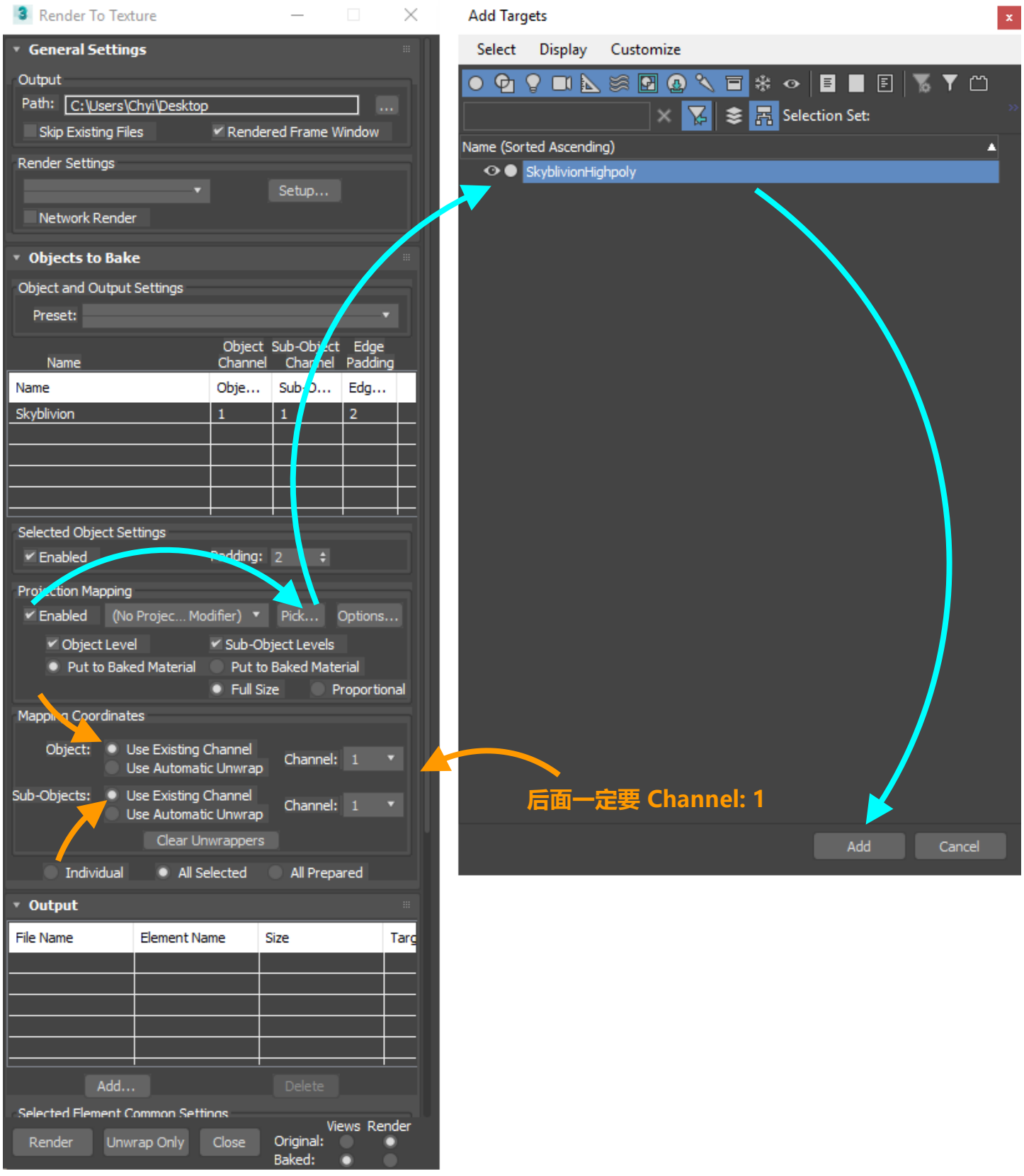
然后选低模斧头，在 Rendering 下方按下 Render To Texture (或快捷 0)



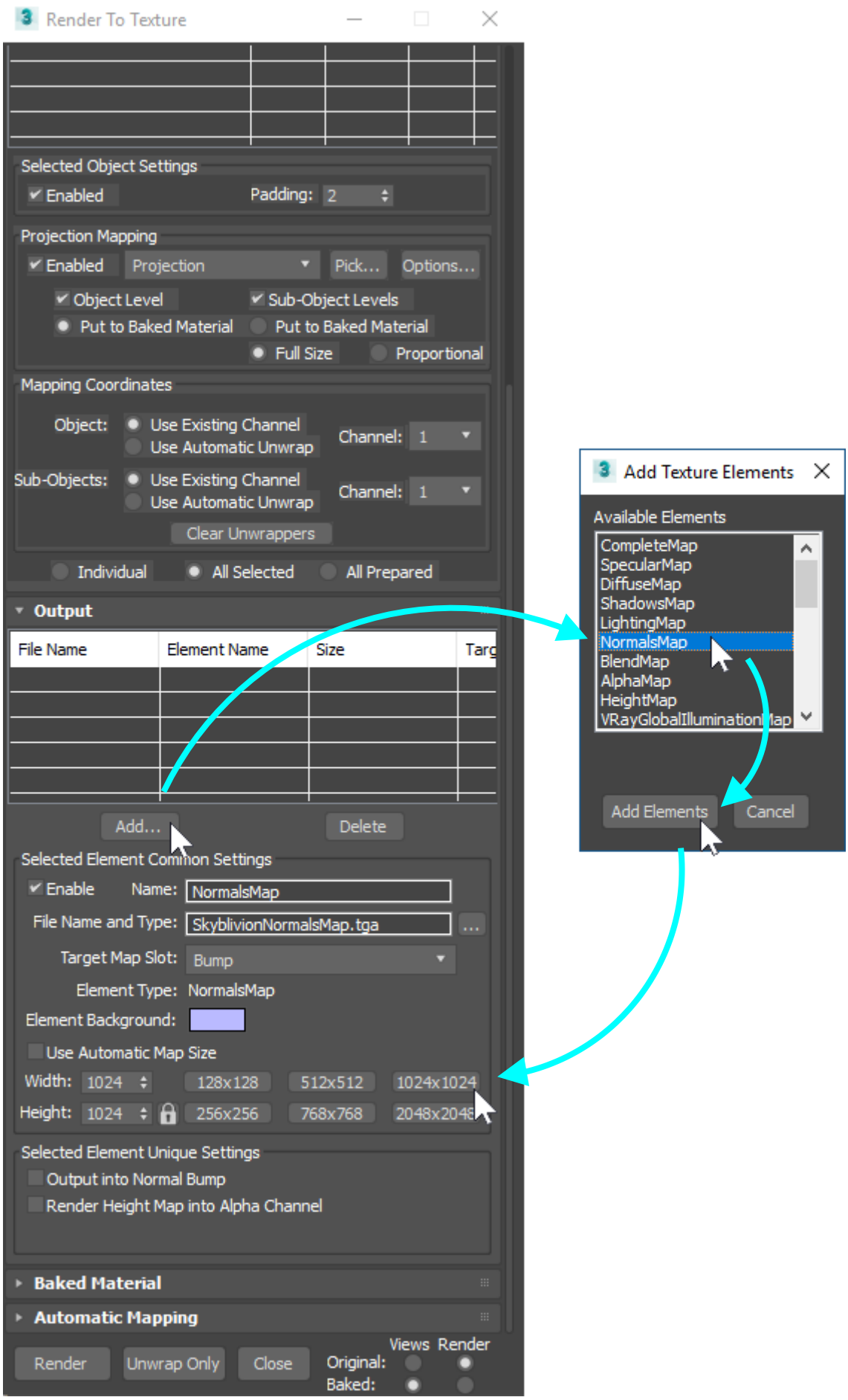
在 General Settings 下面，Output Path 就是你要储存的 Normal map 贴图



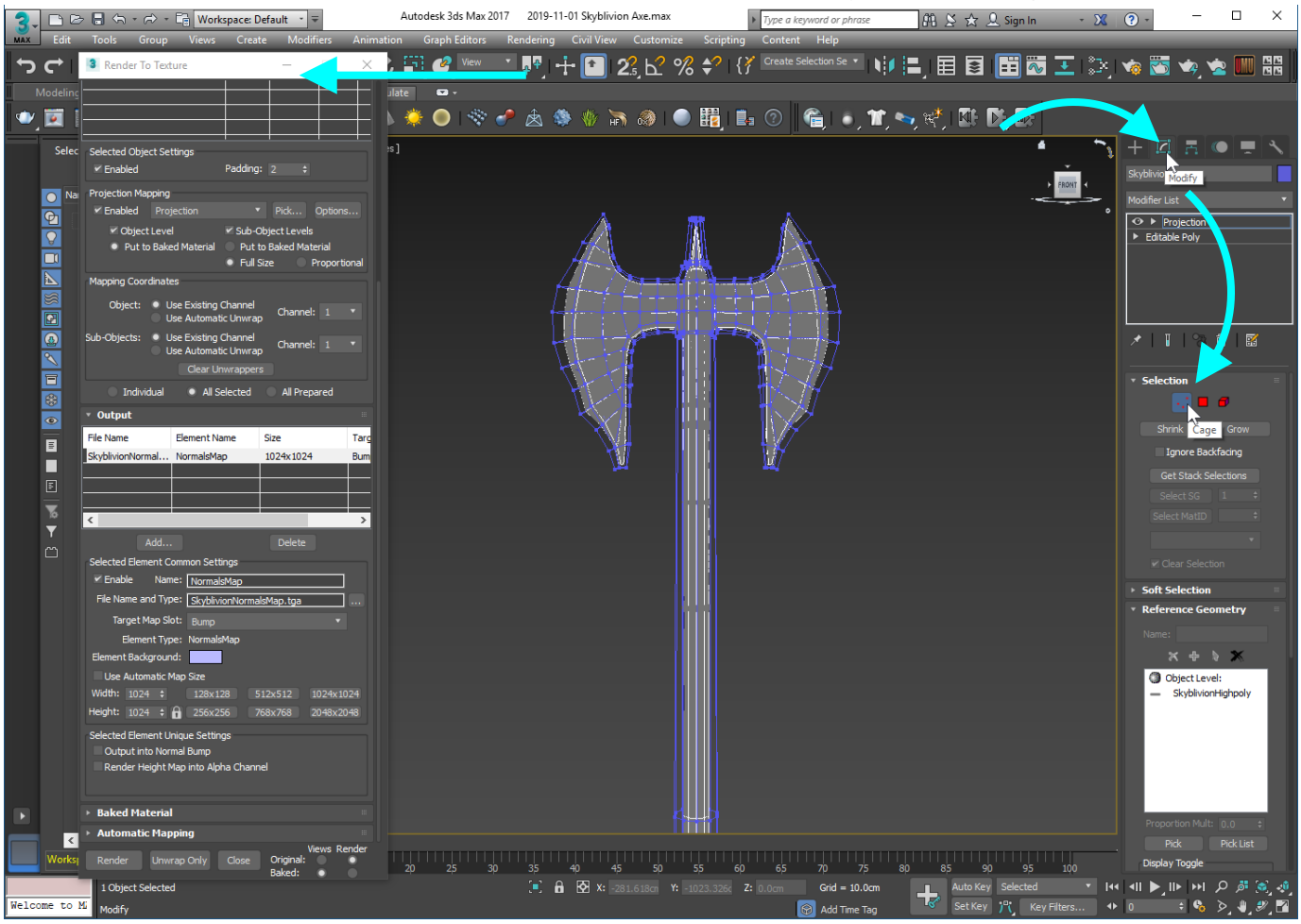
接下来在 Projection Mapping 打勾 Enable，按下 Pick，然后选择你的高模斧头
还有确保 Mapping Coordinates 使用 Use Existing Channel，后面一定要选 Channel: 1



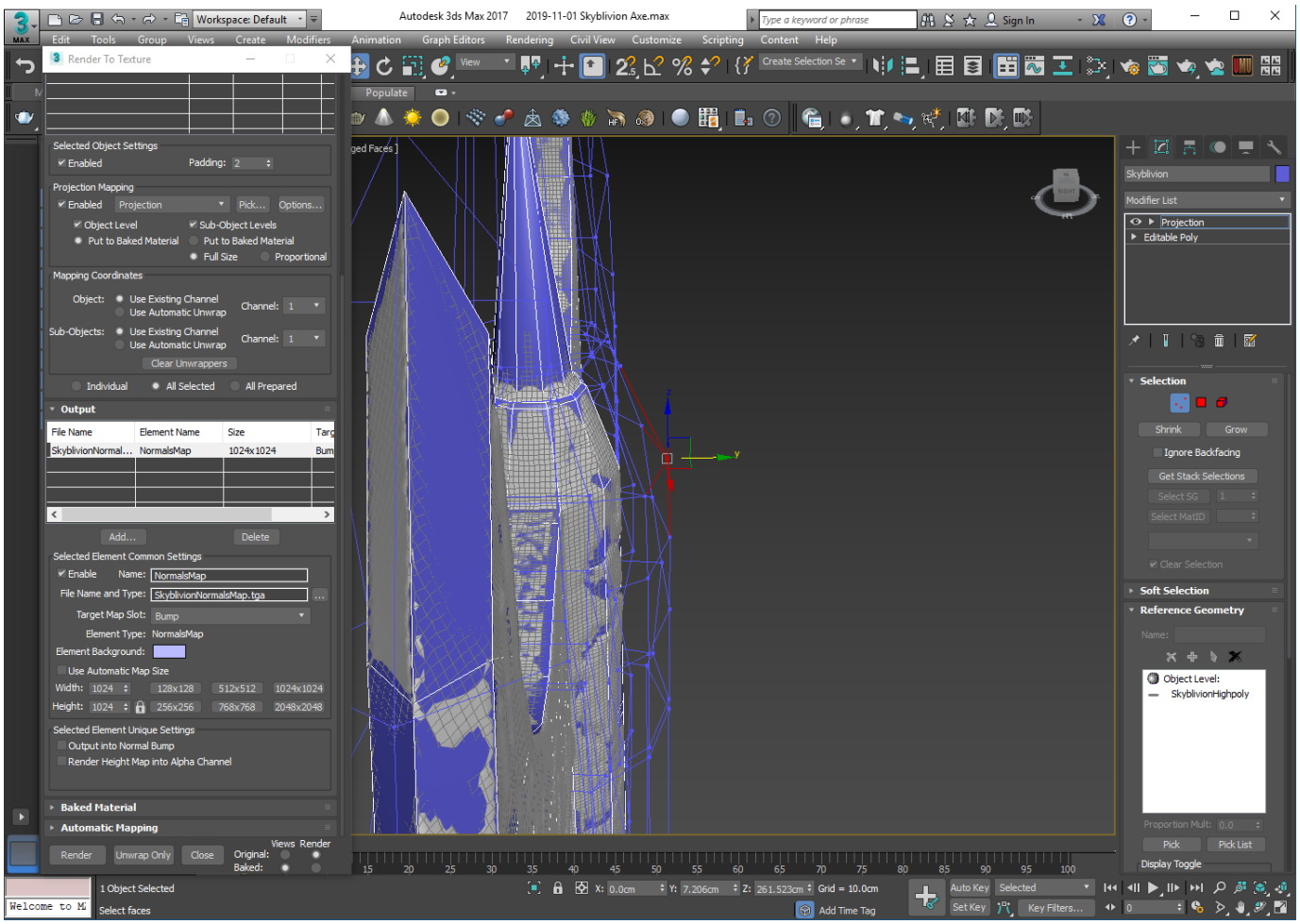
之后在 Output 按下 Add，选 Normals Map，然后按下 Add Elements



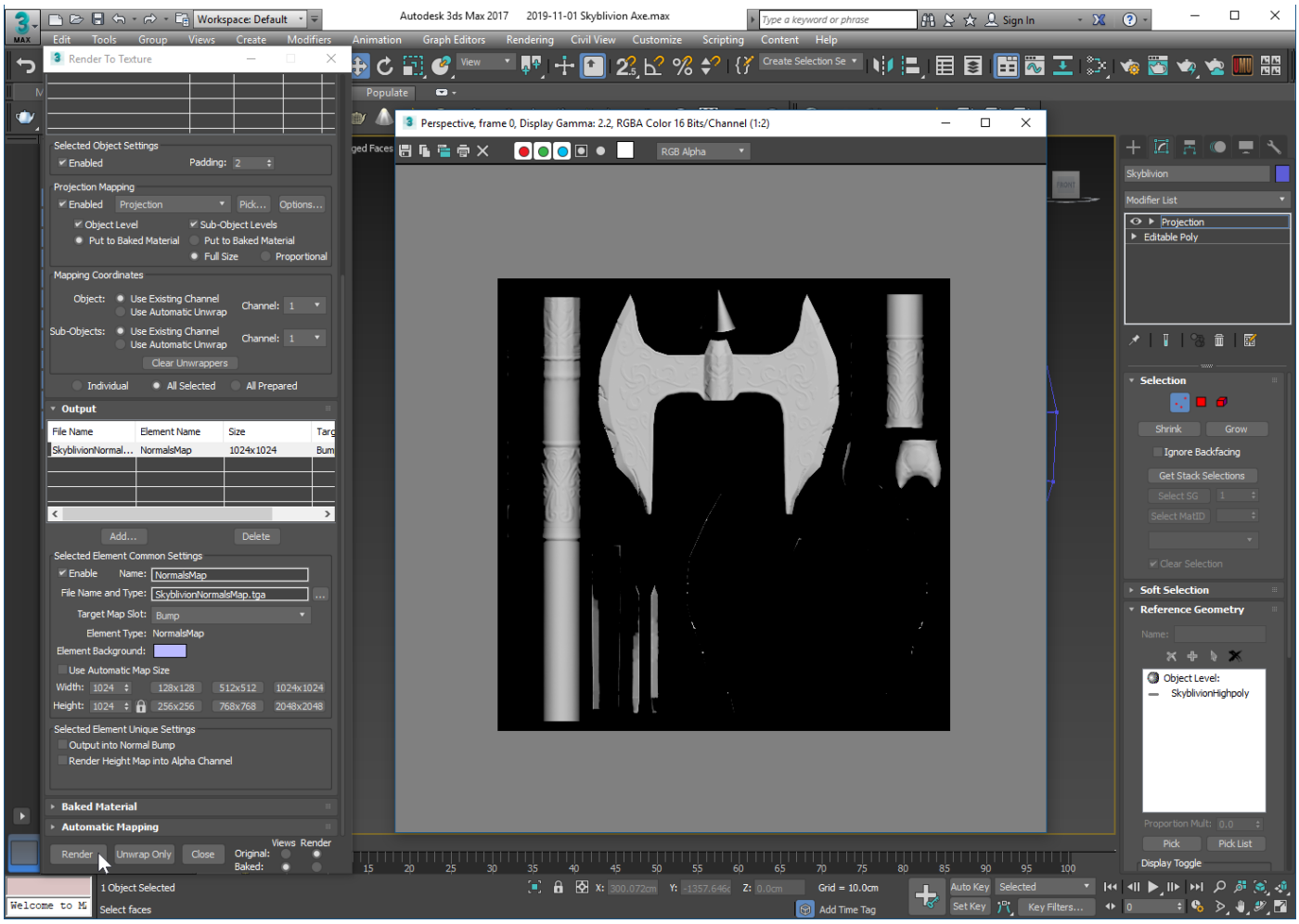
把 Render To Texture 推去一旁 (千万不可以关掉)，然后在右边按下 Modify，然后按下 Cage



在这里，把每个点调好来，确保每个点都有包住高模斧头和低模斧头

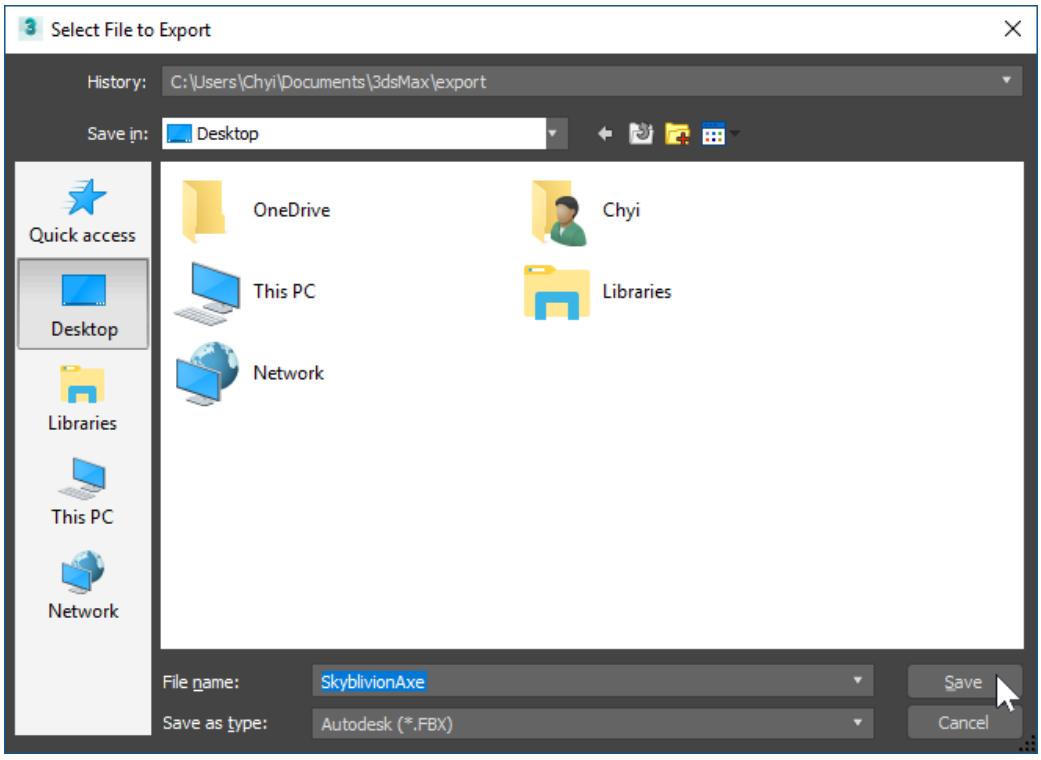


调整好了后，滑鼠按下 Render，就开始渲染 Normal map

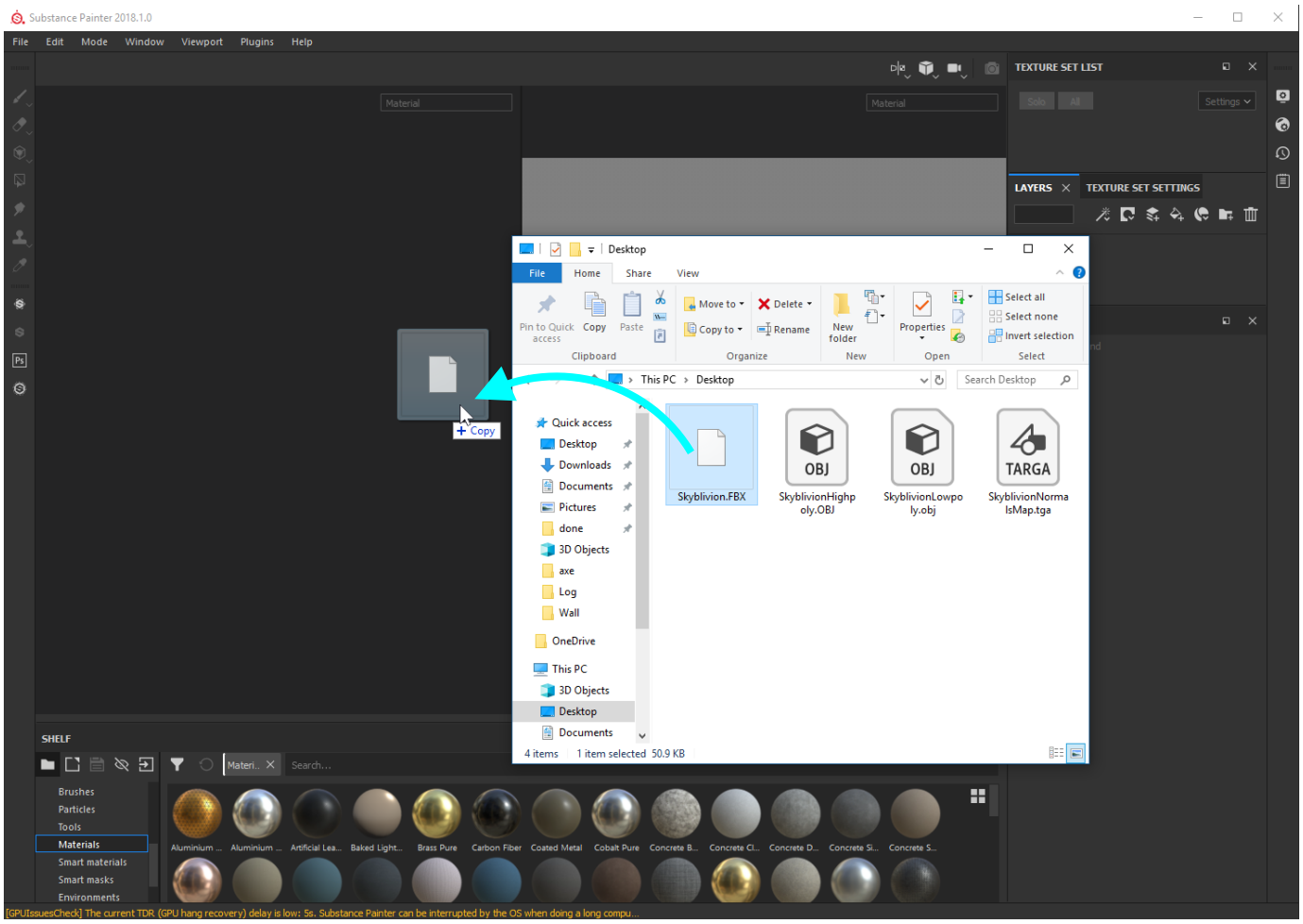


只要没有红色就表示渲染成功

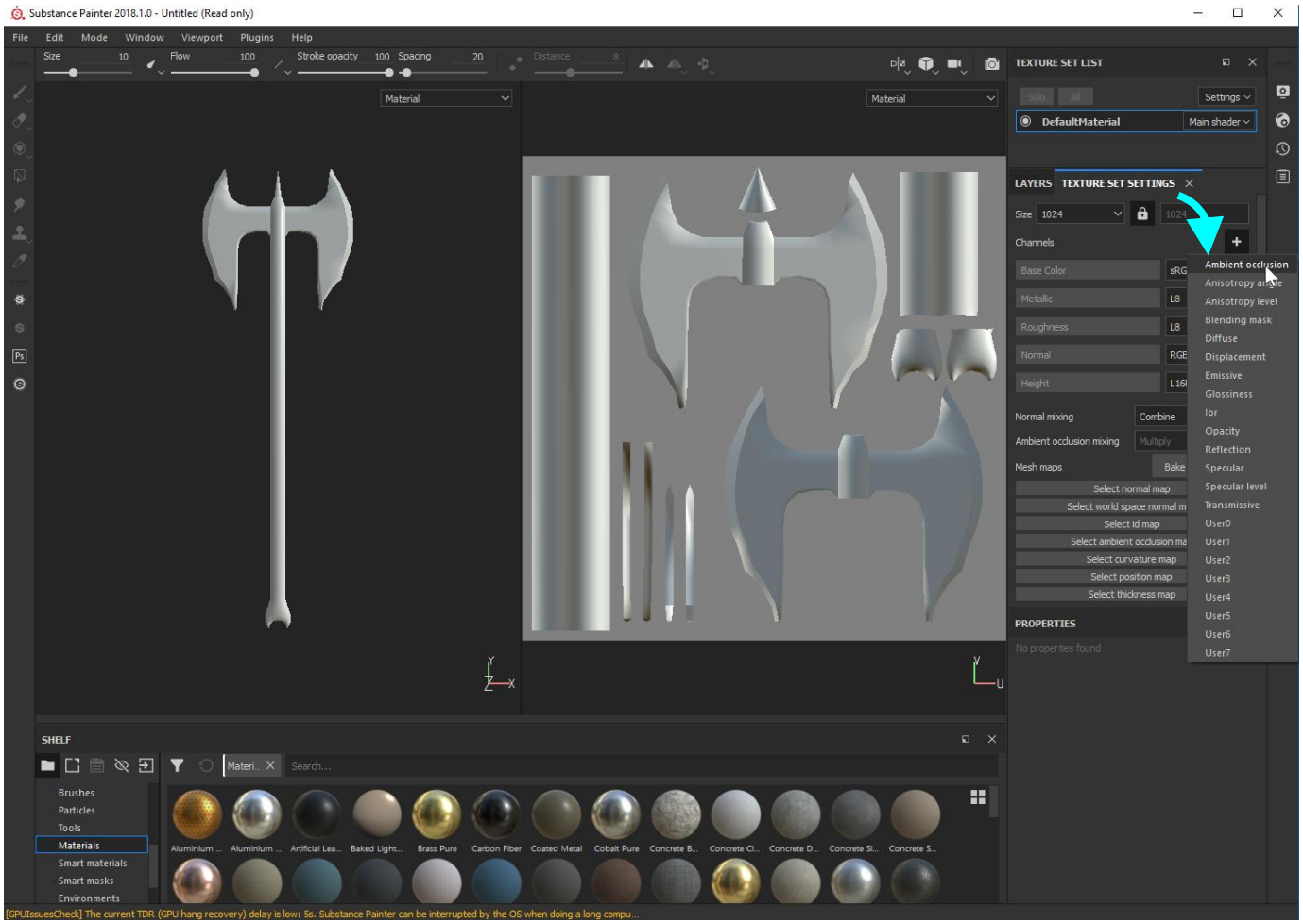
接下来我们要 export .fbx 因为接下来我们要进入 Substance Painter



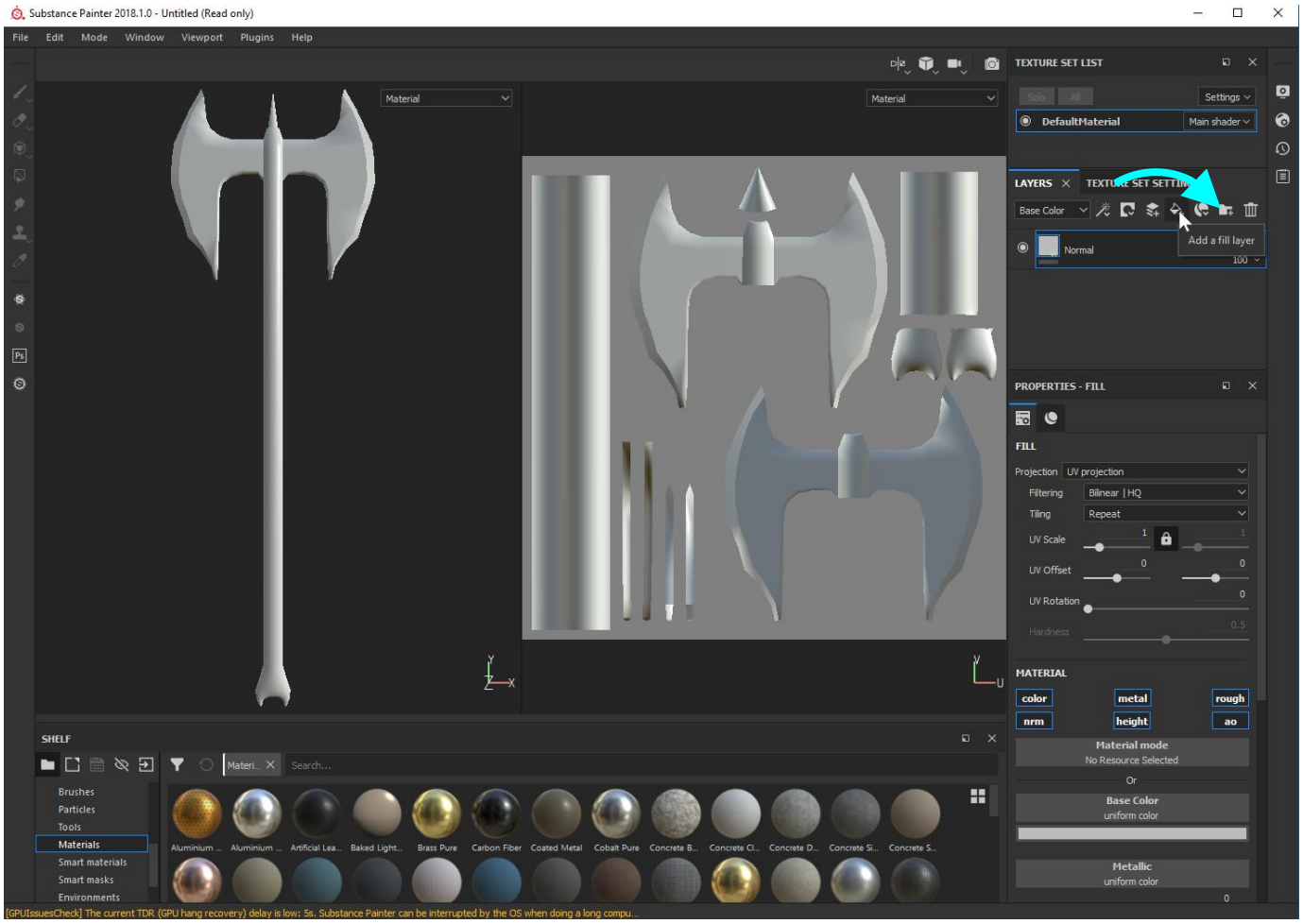
接下来打开 Substance Painter，然后把斧头 import 到 Substance Painter 里



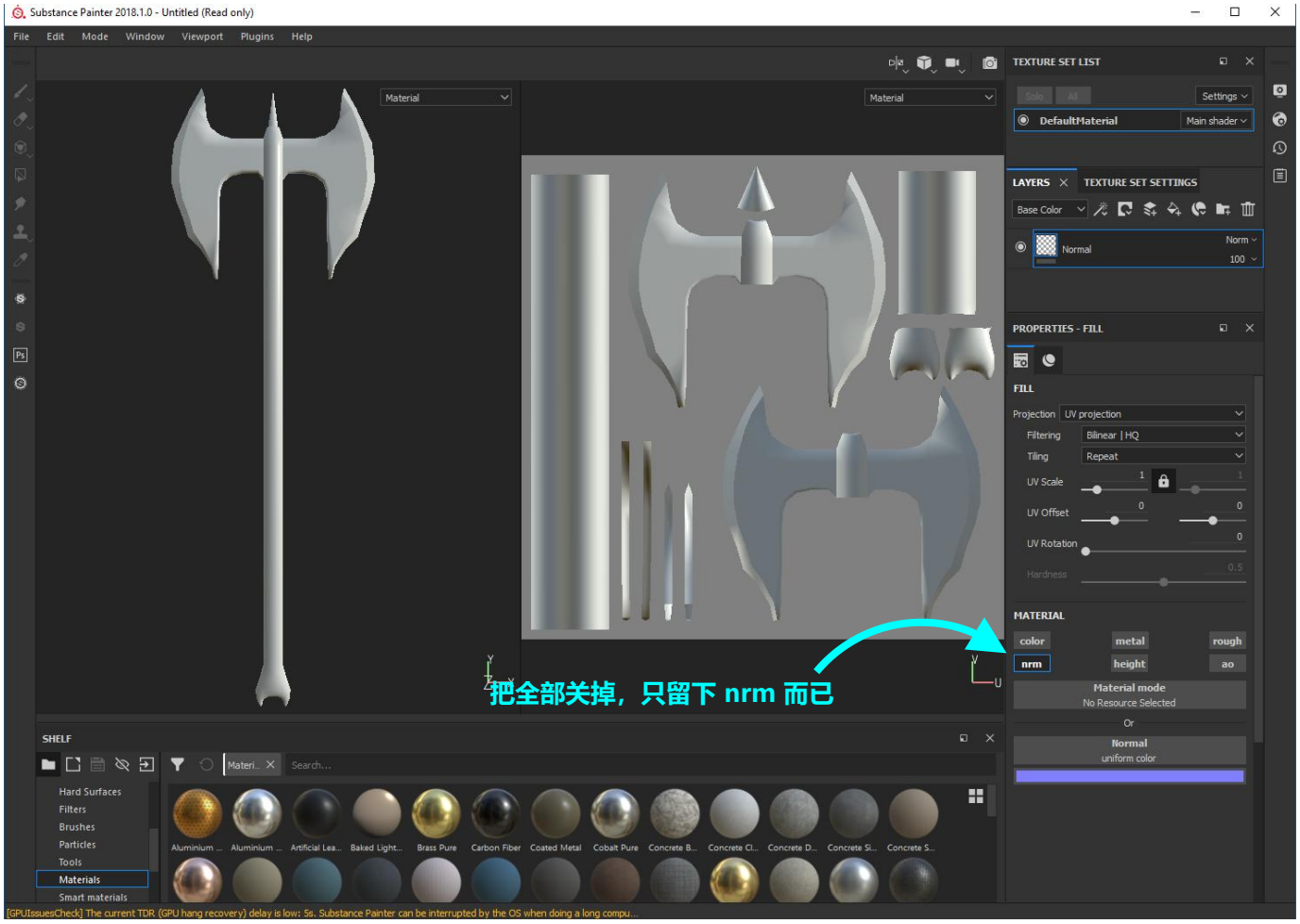
打开 Texture Settings，添加 Ambient Occlusion



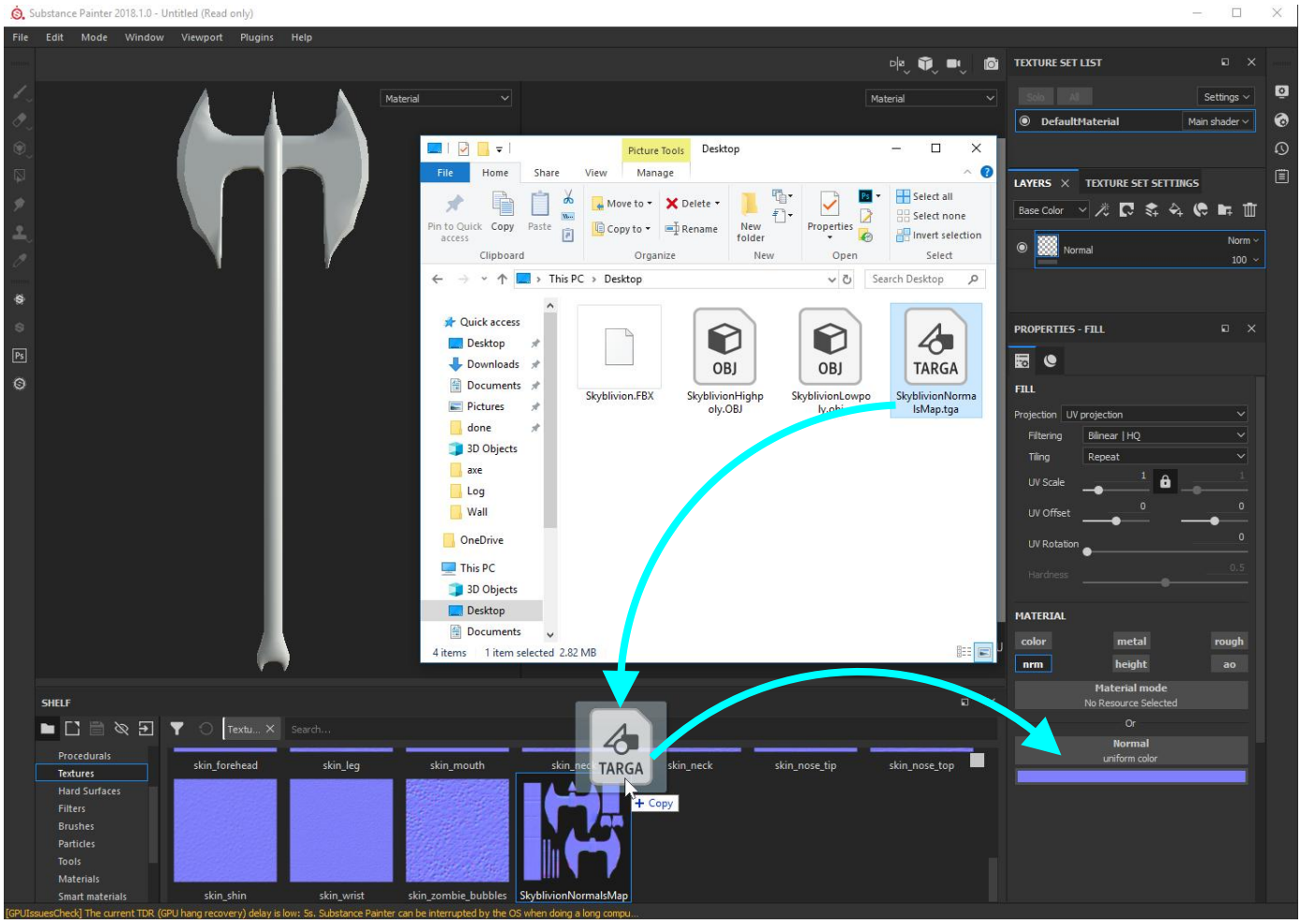
之后，在 Layers 按下 Add a fill layer，取名 Normal



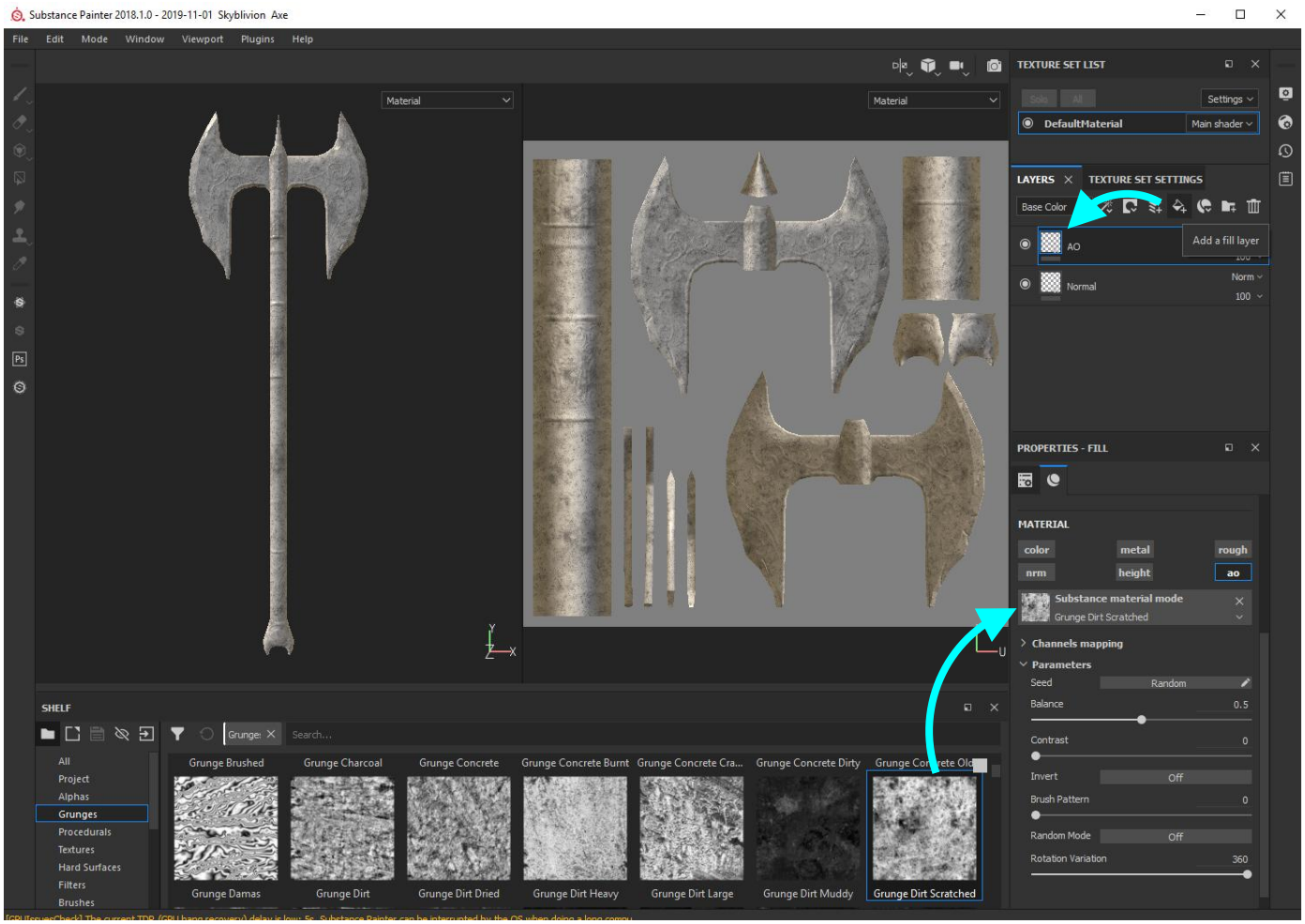
在 Material，把所有东西关上，只留下 nrm (Normal)



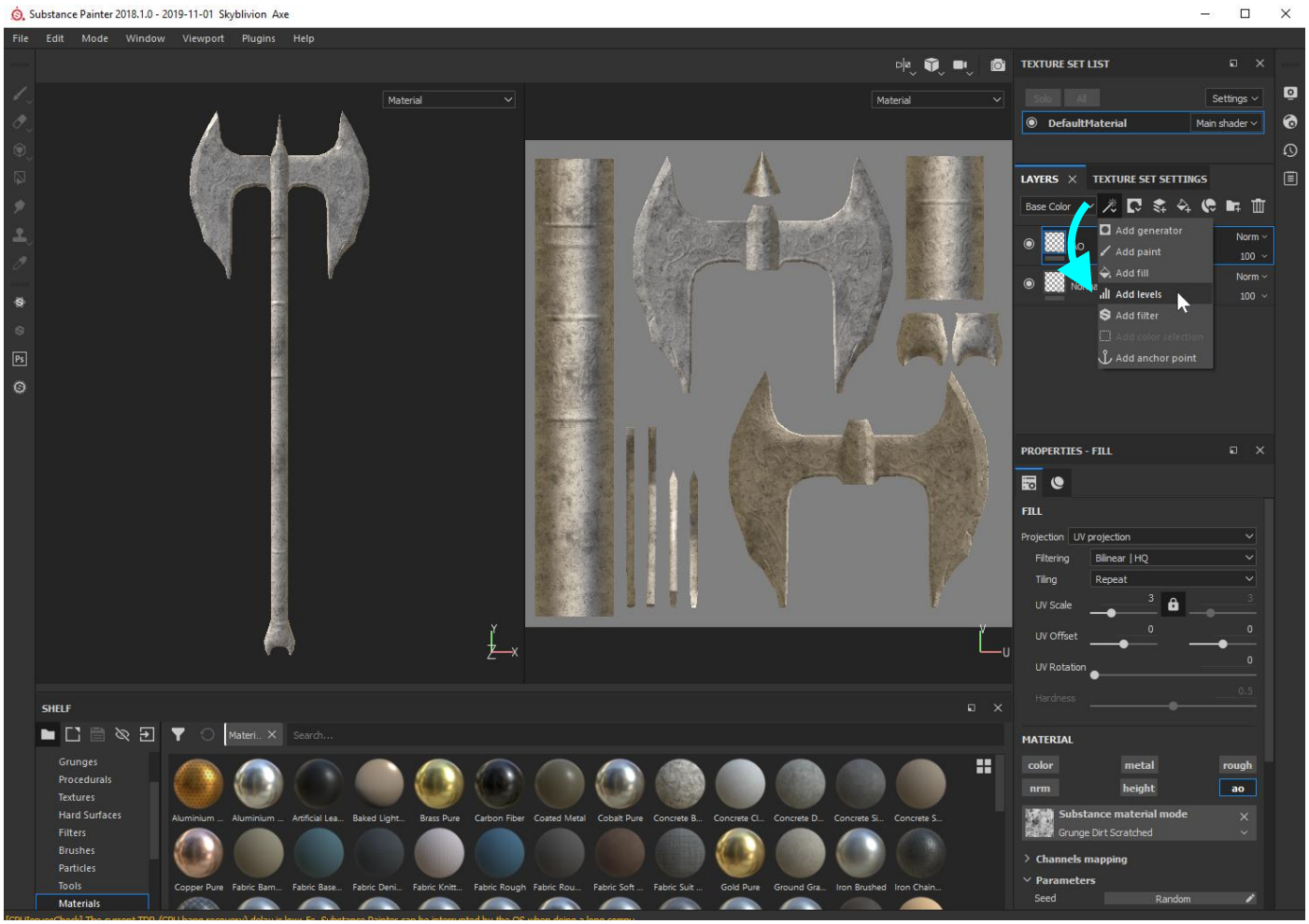
把 3ds Max 渲染的 Normal map 放入 Substance Painter 里，然后放进 Normal



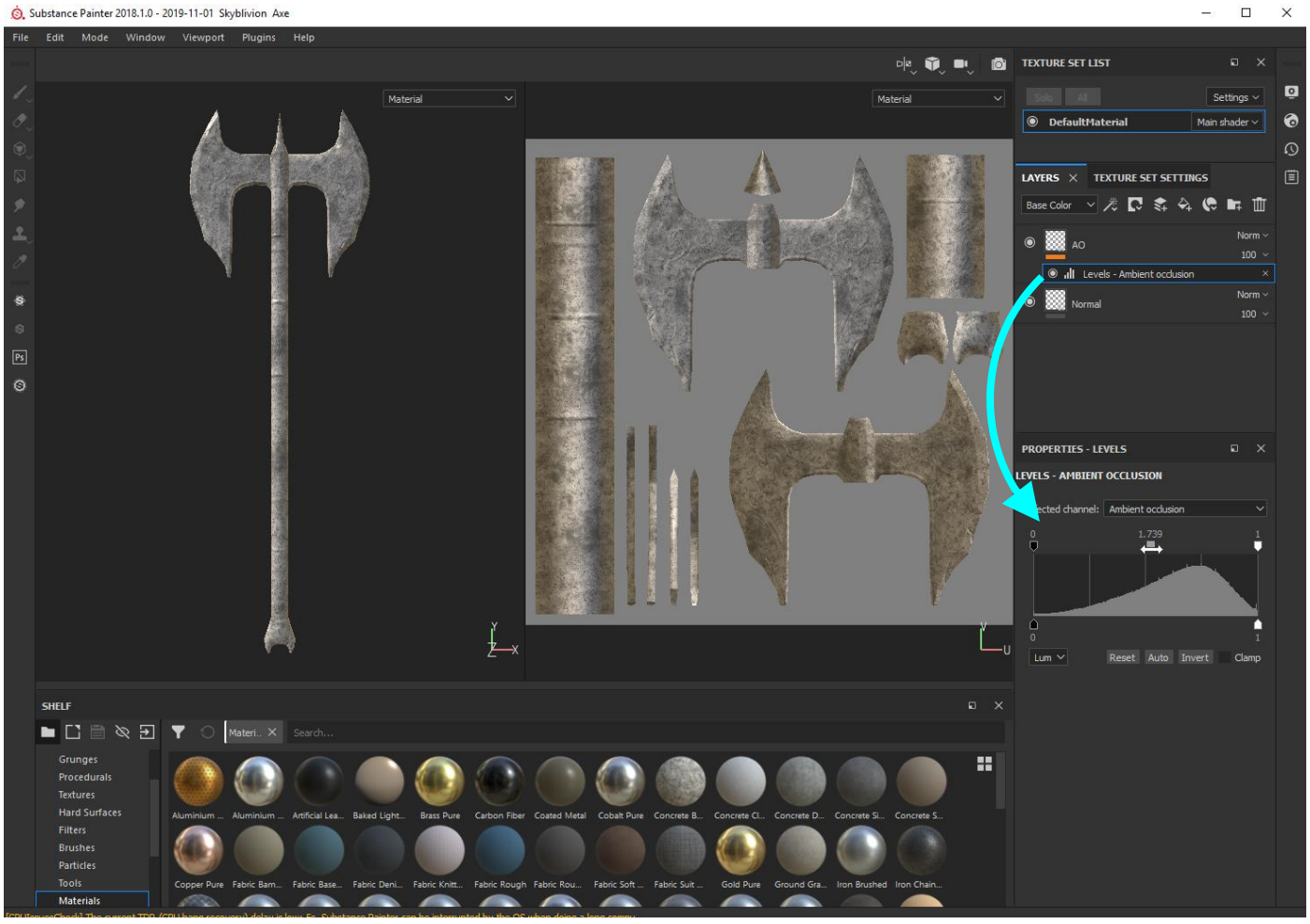
接下来再按 Add a fill layer，取名为 AO，然后找适当的肮脏图 (Grunge Dirt Scratched) 到 AO 里



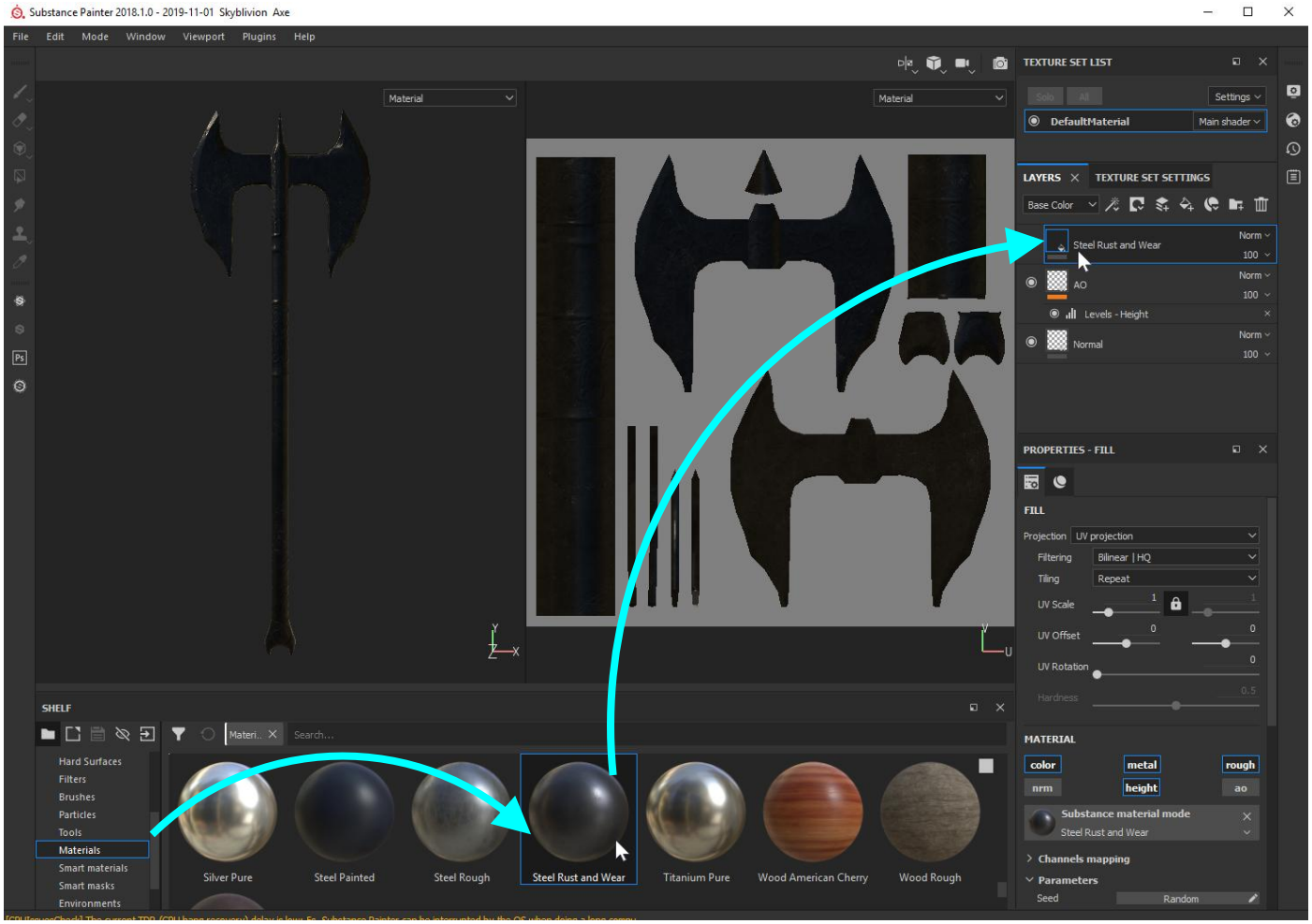
我们在 AO 添加 Add levels



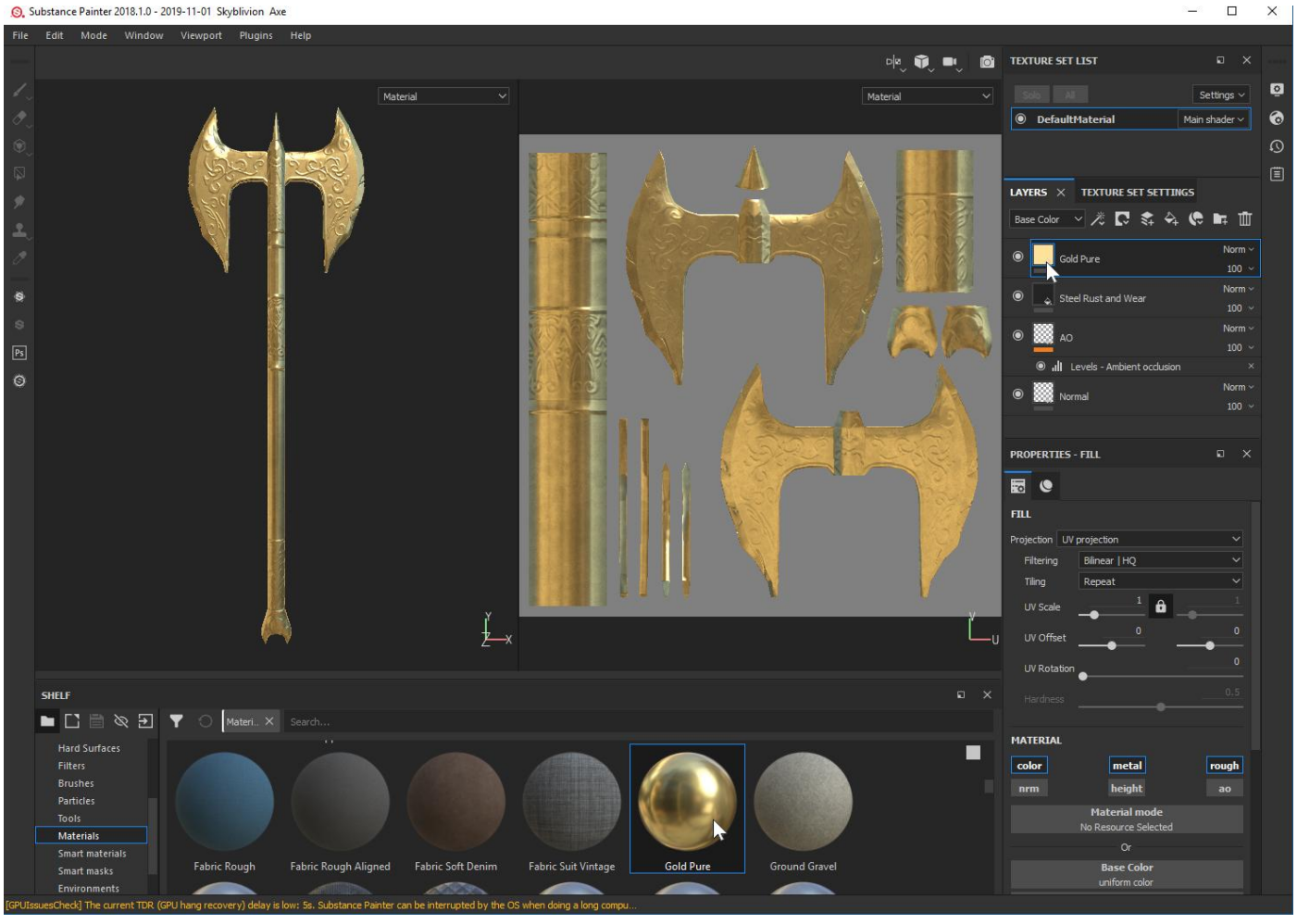
然后我们调一下 AO



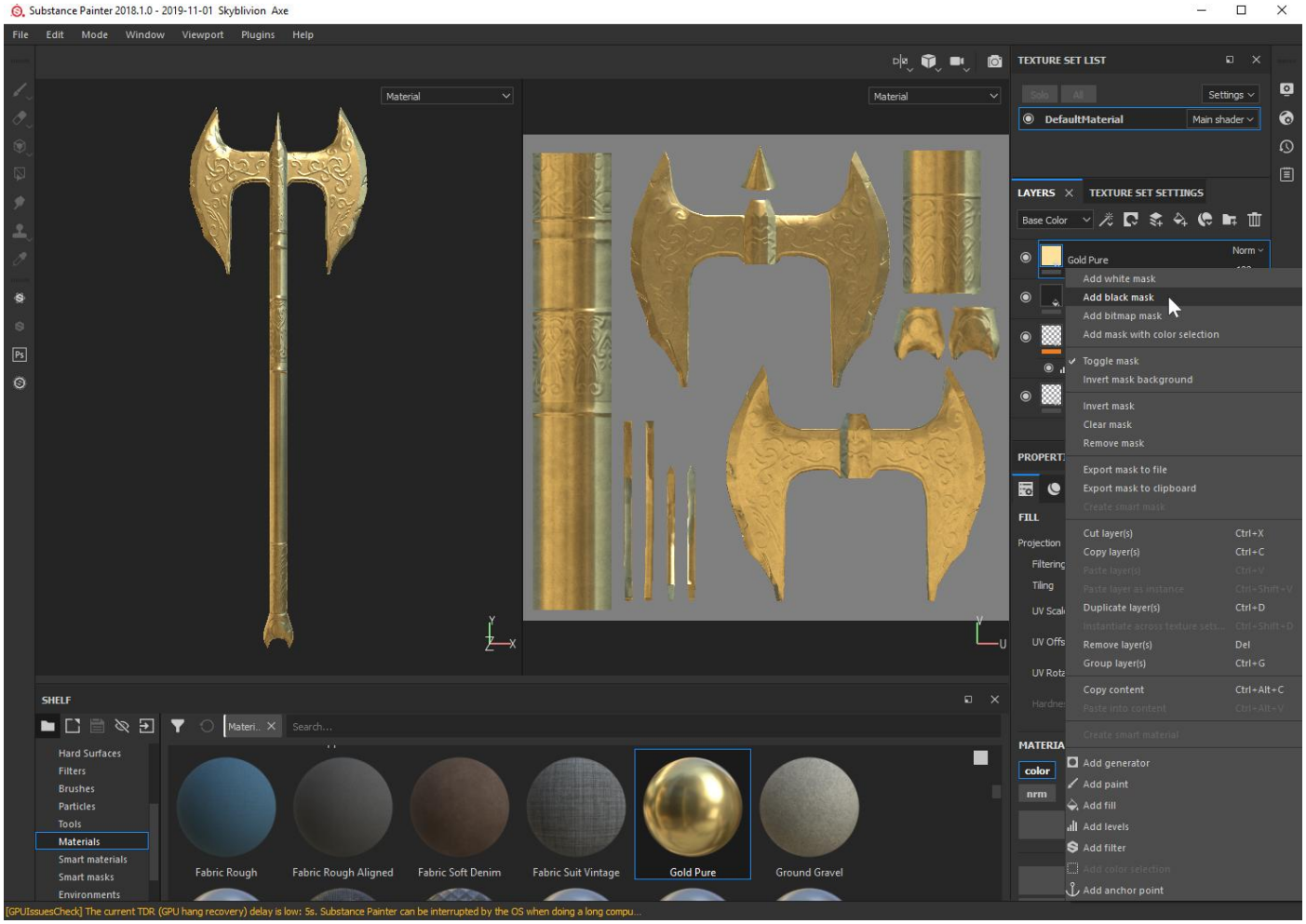
把斧头放上 Steel Rust and Wear 材质球



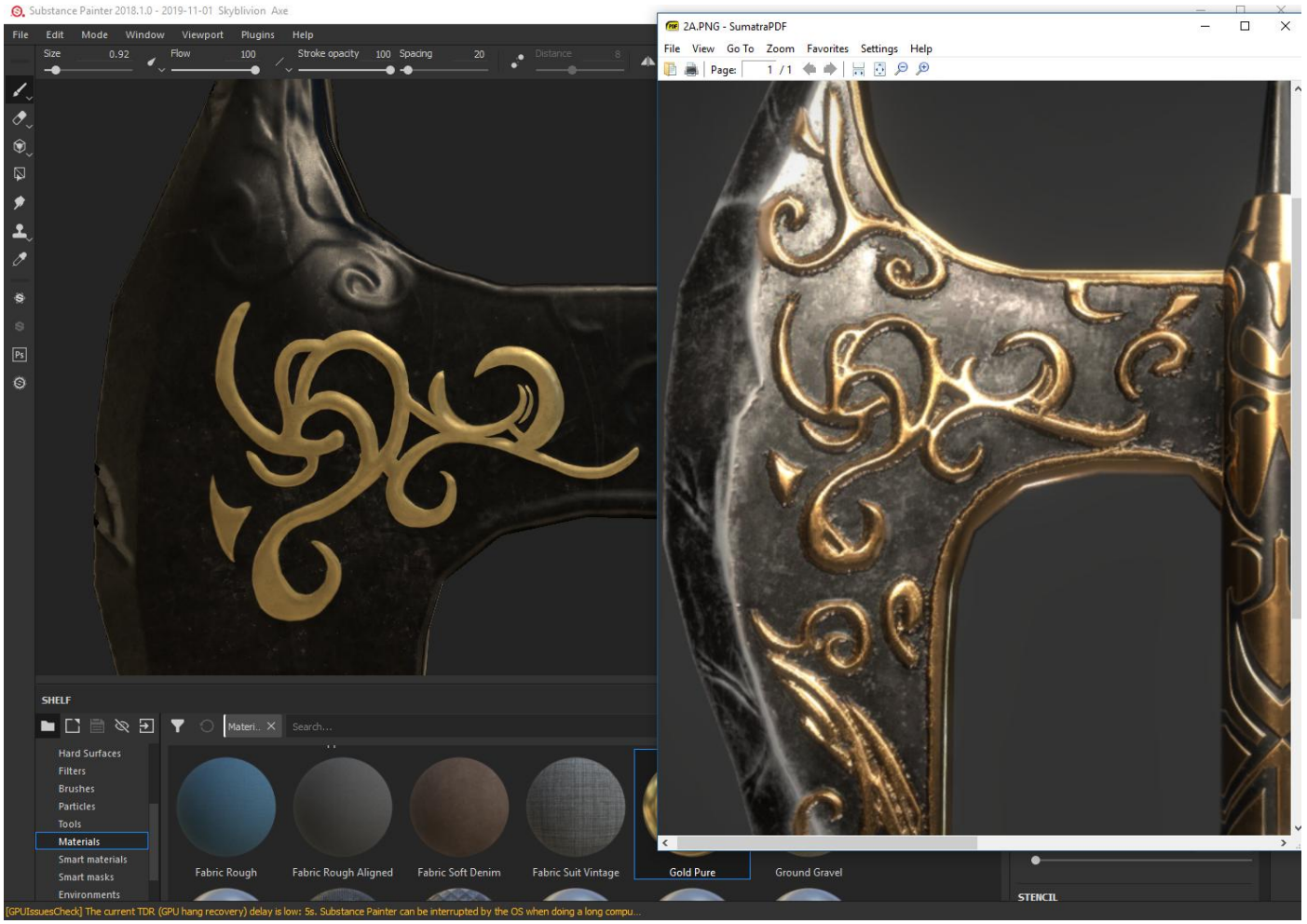
然后我们把 Gold Pure 材质球放上斧头去



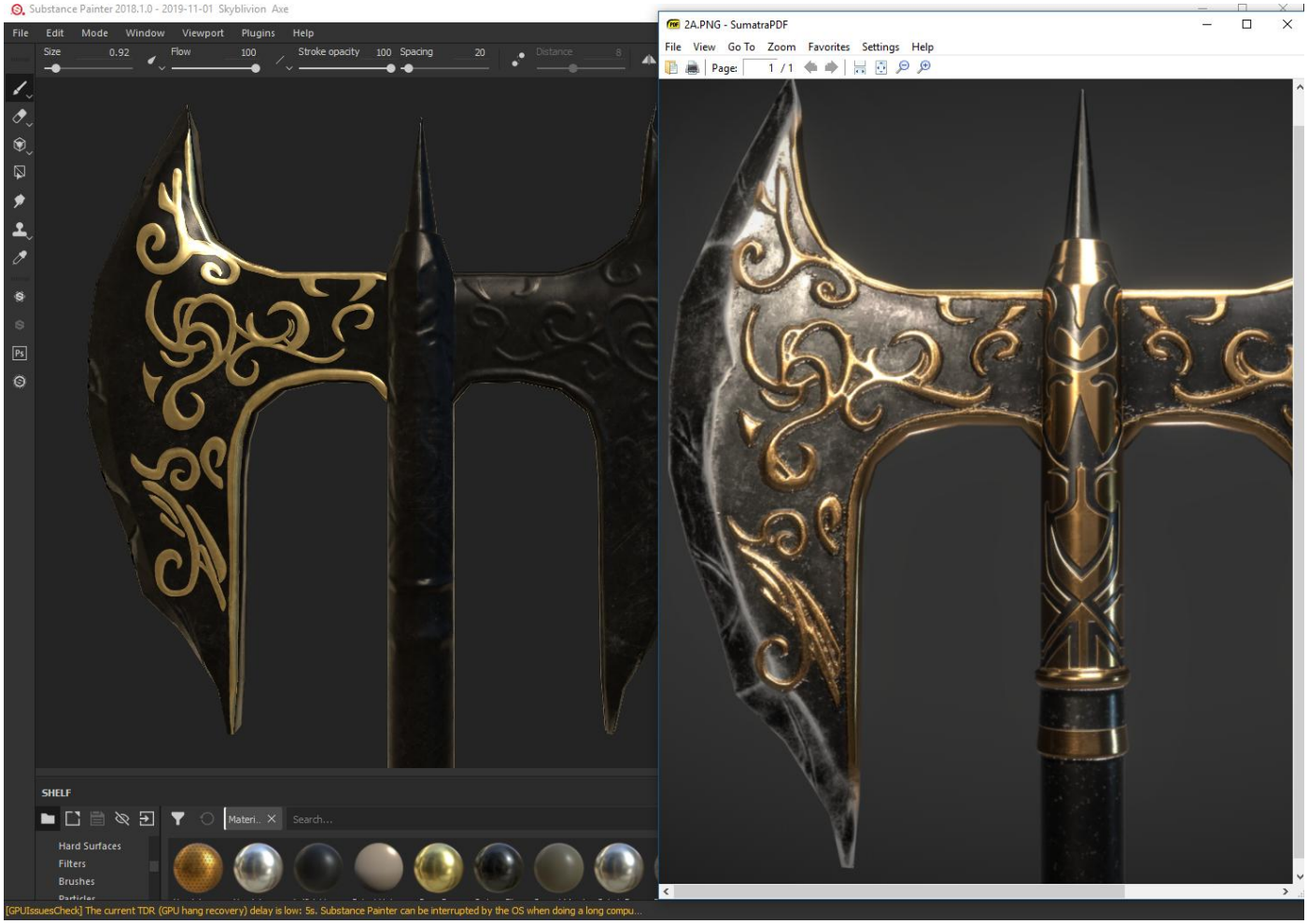
当然，不可能整个斧头都是金色，所以我们必须要 Add black mask



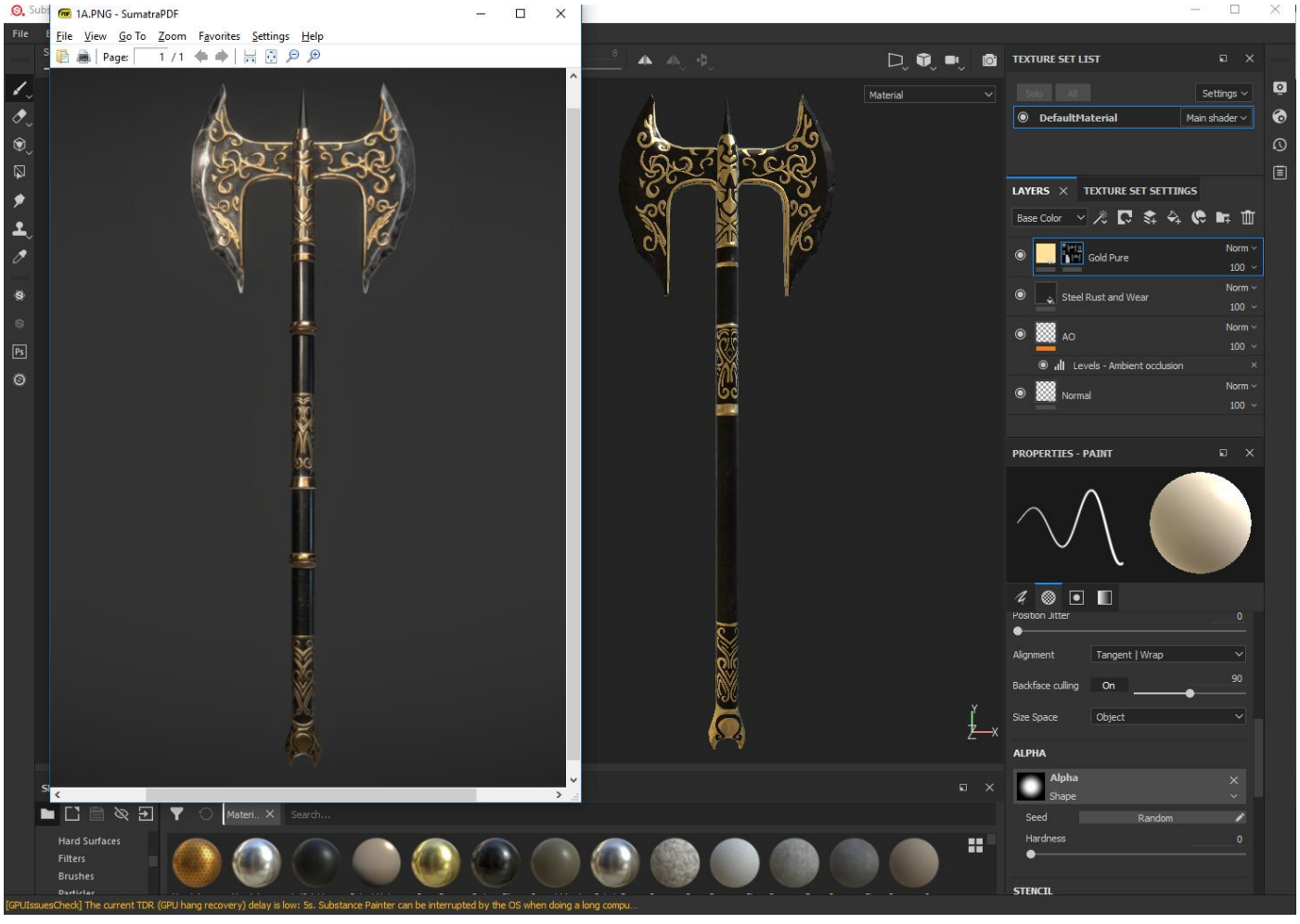
慢慢画出来斧头金色的部分



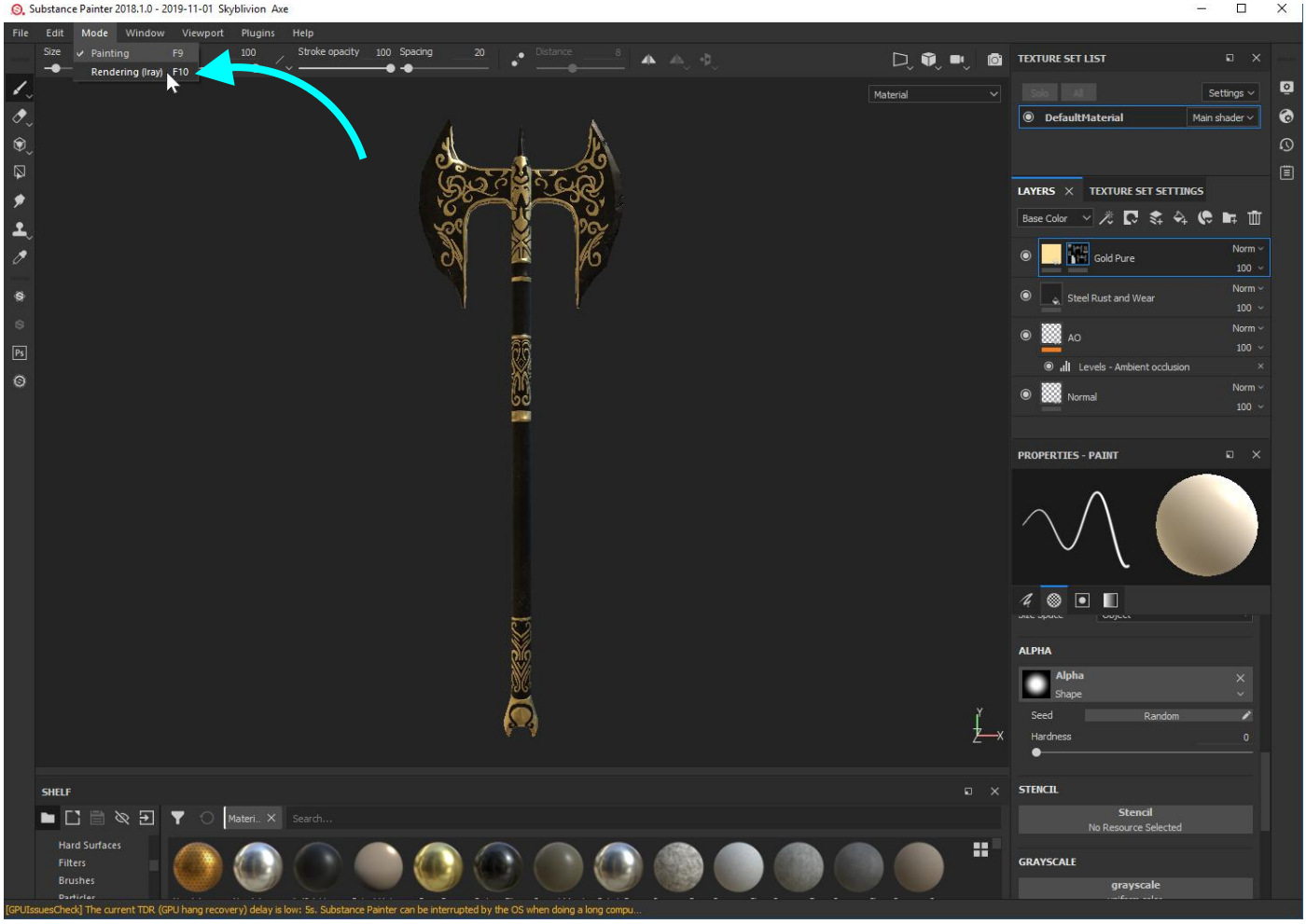
已经完成其中一个部分



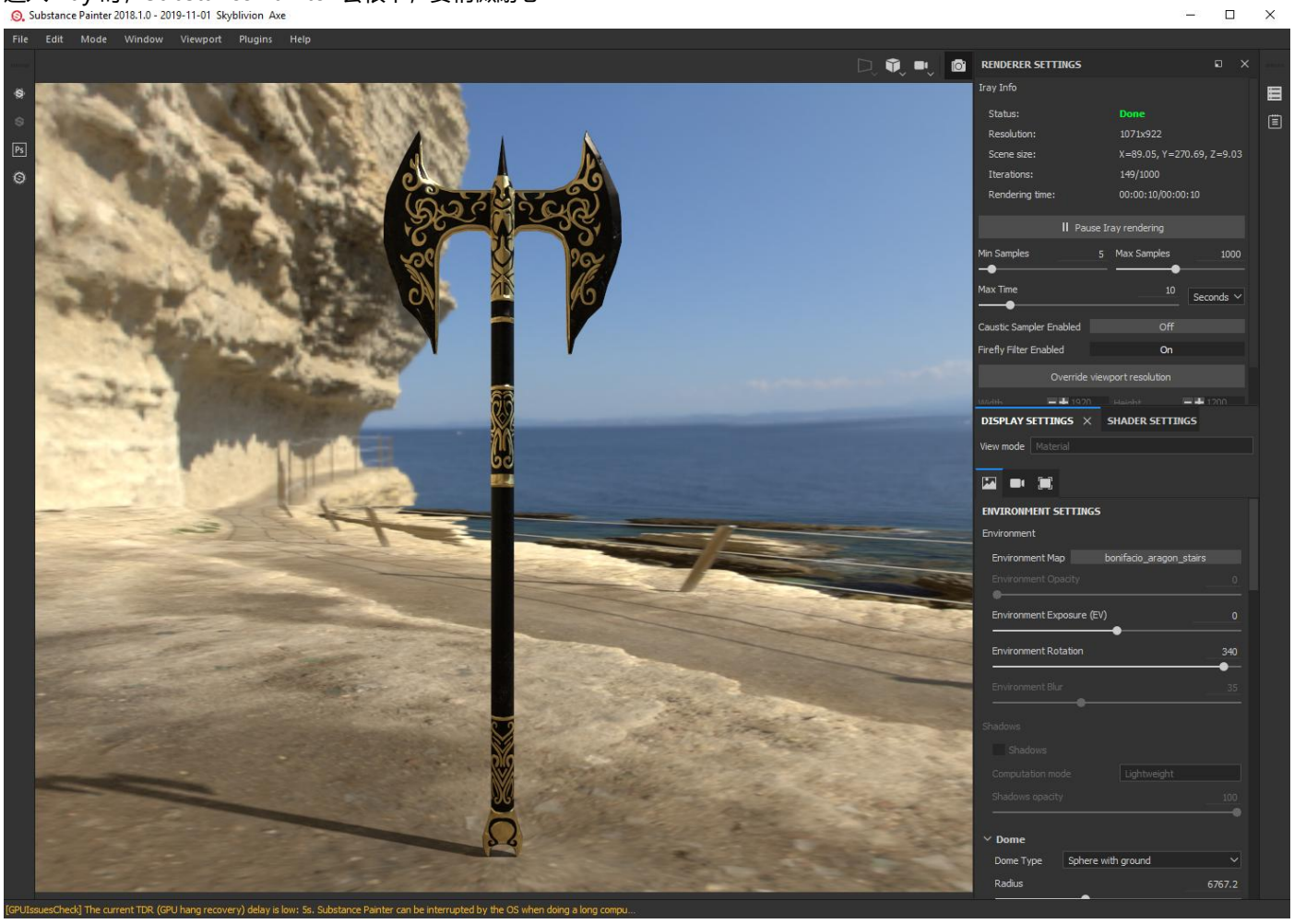
完成了



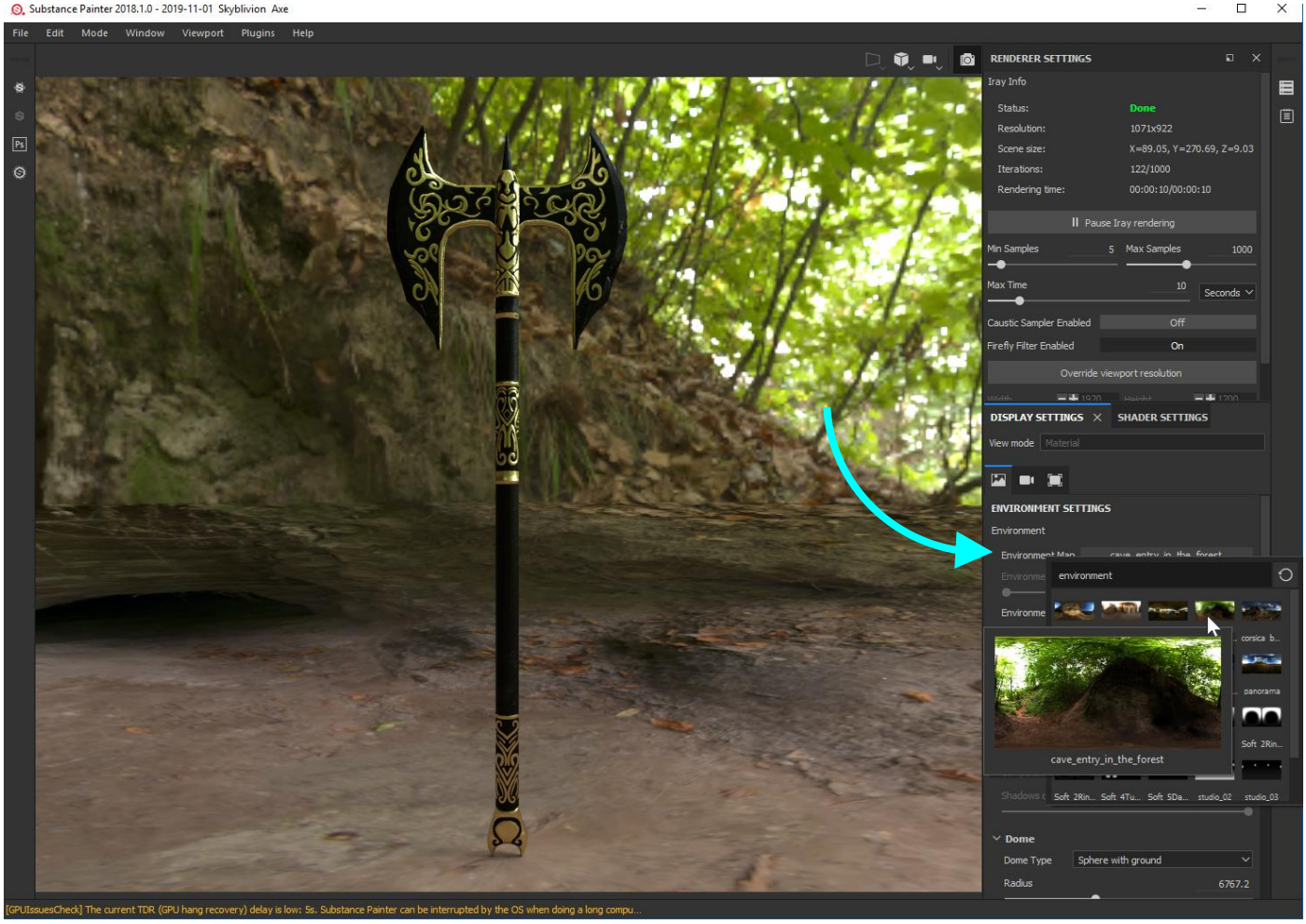
接下来我们要渲染 Iray，在 Mode 下方按下 Rendering (Iray) F10



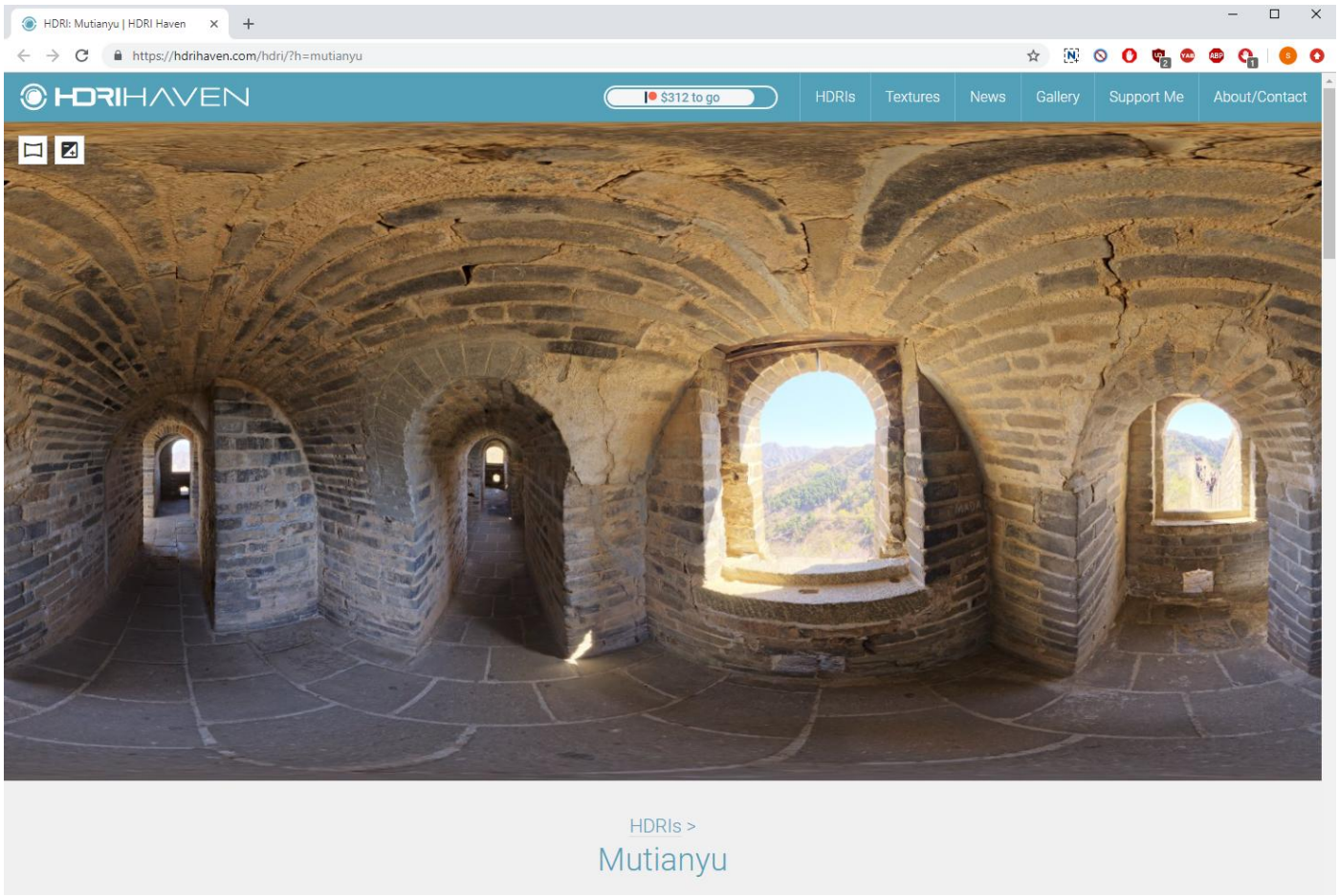
进入 Iray 时，Substance Painter 会很卡，要稍微耐心



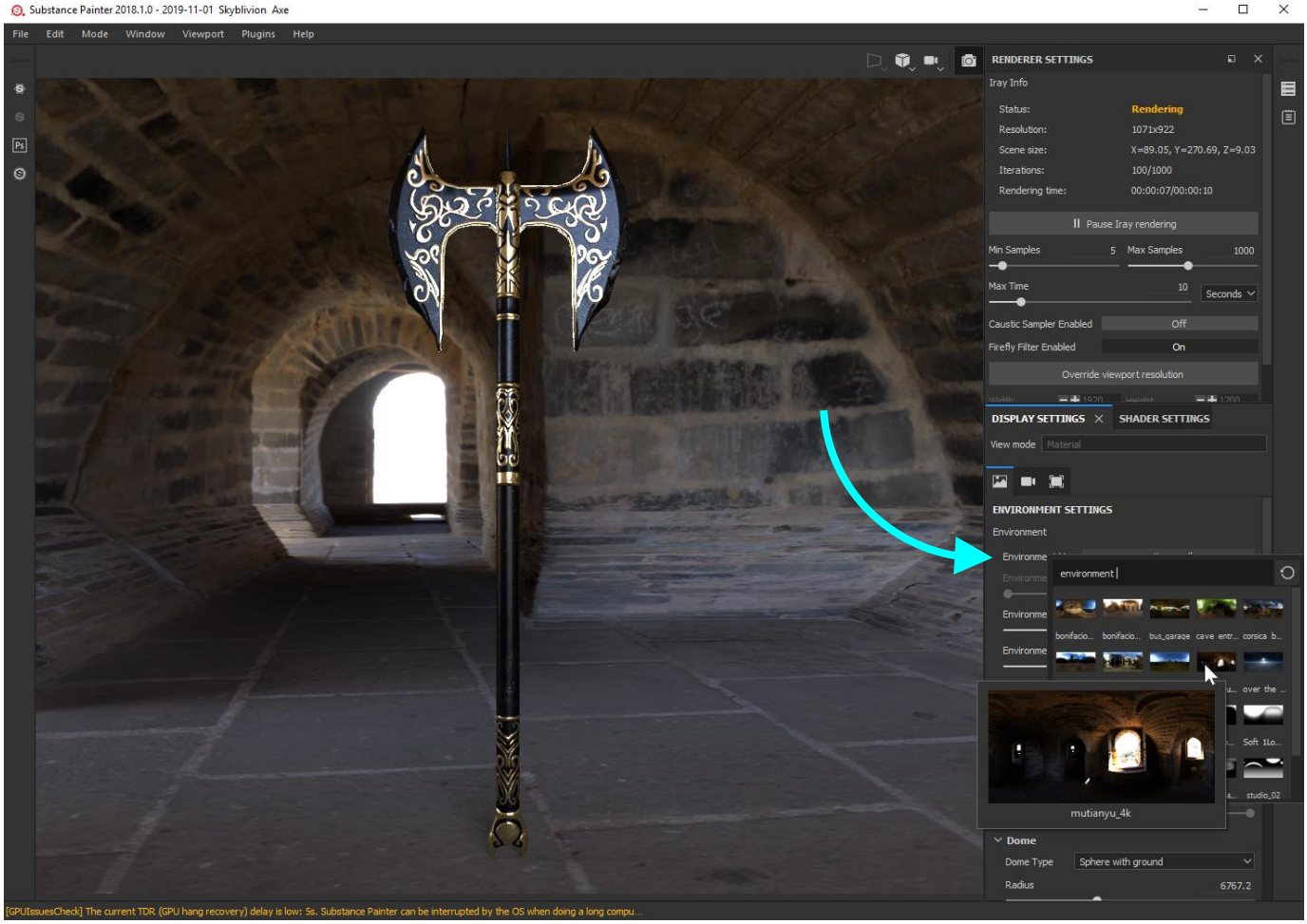
我们可以在 Environment Map，把后面的场景给换掉，选你喜欢的场景



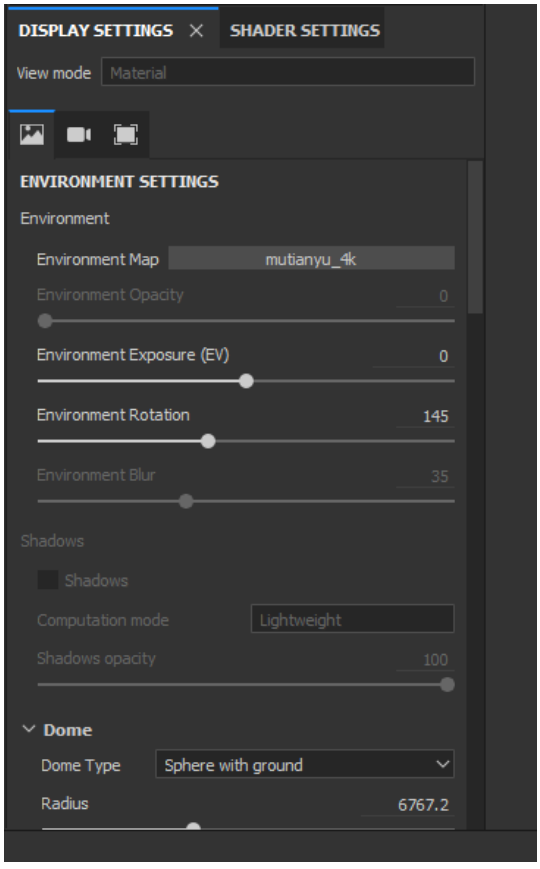
或者可以上网下载你需要的场景



在这里我已经换了我想要的场景图


Substance Painter 2018.1.0 - 2019-11-01 Skyblivion Axe
File Edit Mode Window Viewport Plugins Help
RENDERER SETTINGS
Iray Info
Status: Rendering
Resolution: 1071x922
Scene size: X=89.05, Y=270.69, Z=9.03
Iterations: 100/1000
Rendering time: 00:00:07/00:00:10
Pause Iray rendering
Min Samples 5 Max Samples 1000
Max Time 10 Seconds
Caustic Sampler Enabled Off
Firefly Filter Enabled On
Override viewport resolution
DISPLAY SETTINGS SHADER SETTINGS
View mode Material
ENVIRONMENT SETTINGS
Environment
environment
mutianyu_4k
Dome
Dome Type Sphere with ground
Radius 6767.2
[GPUIssuesCheck] The current TDR (GPU hang recovery) delay is low: 5s. Substance Painter can be interrupted by the OS when doing a long compu...

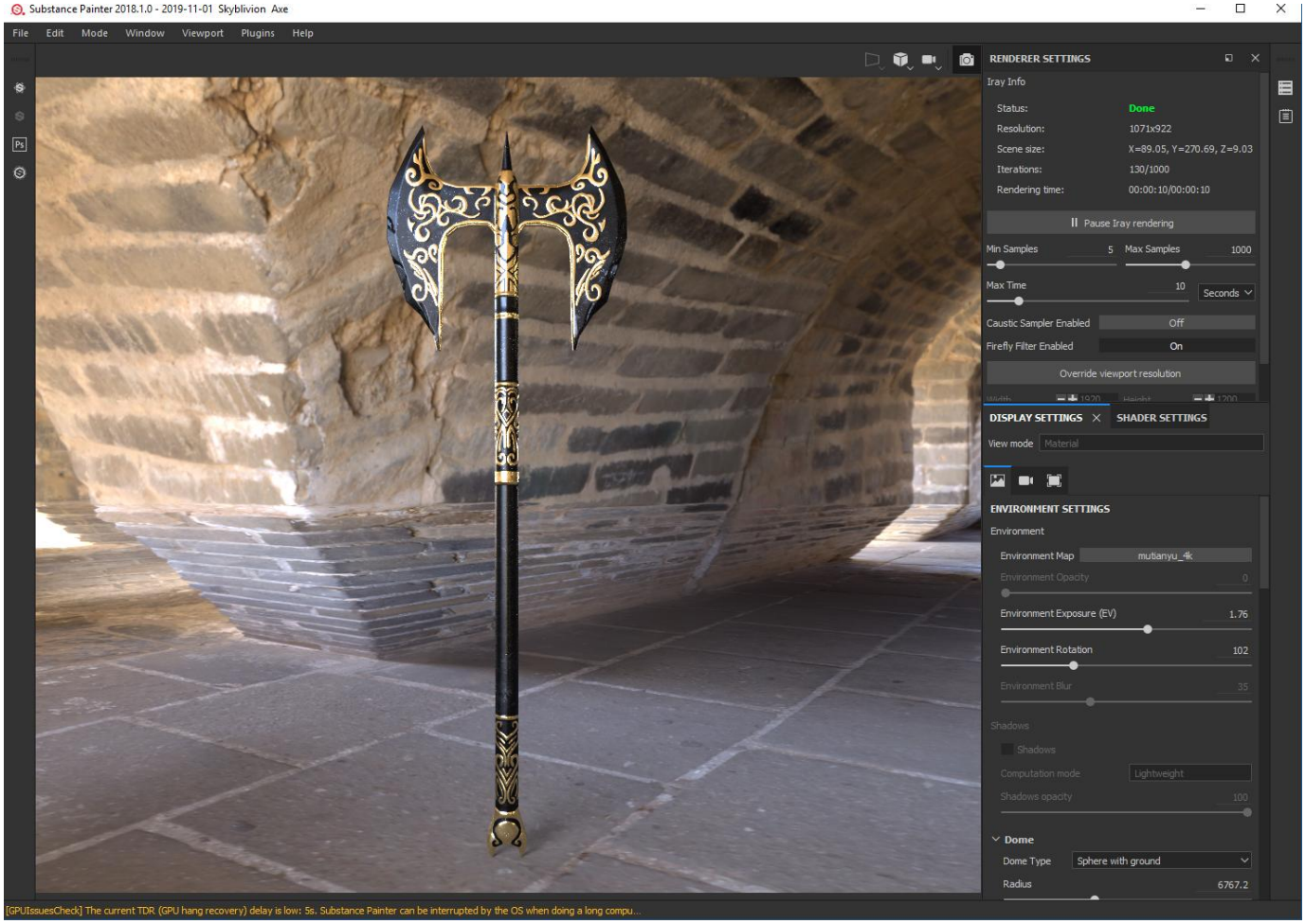
我们到 Environment Settings 里面可以调整场景的设定



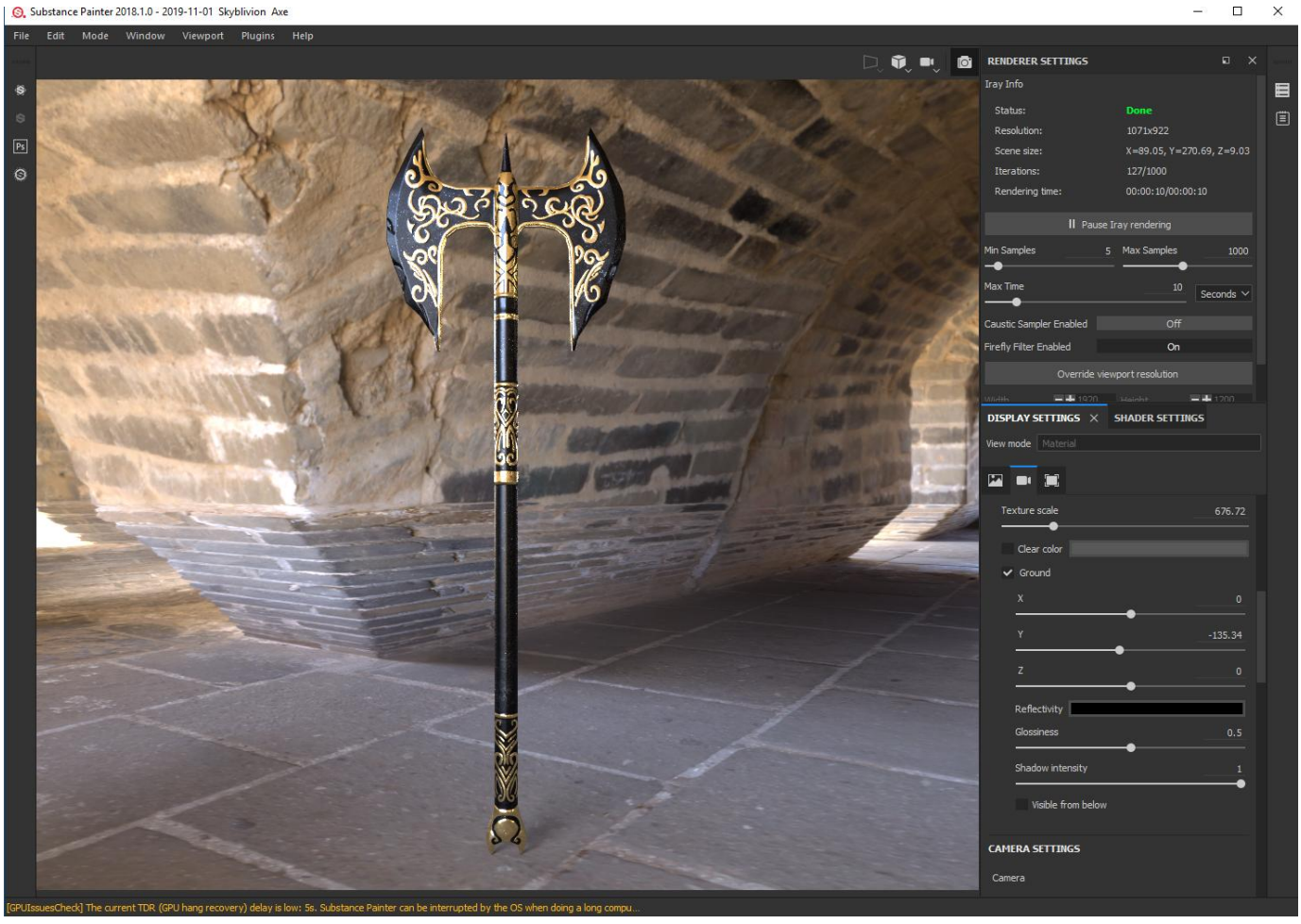
Environment Exposure 可以调整曝光度

Environment Rotation 可以调整场景的旋转角度

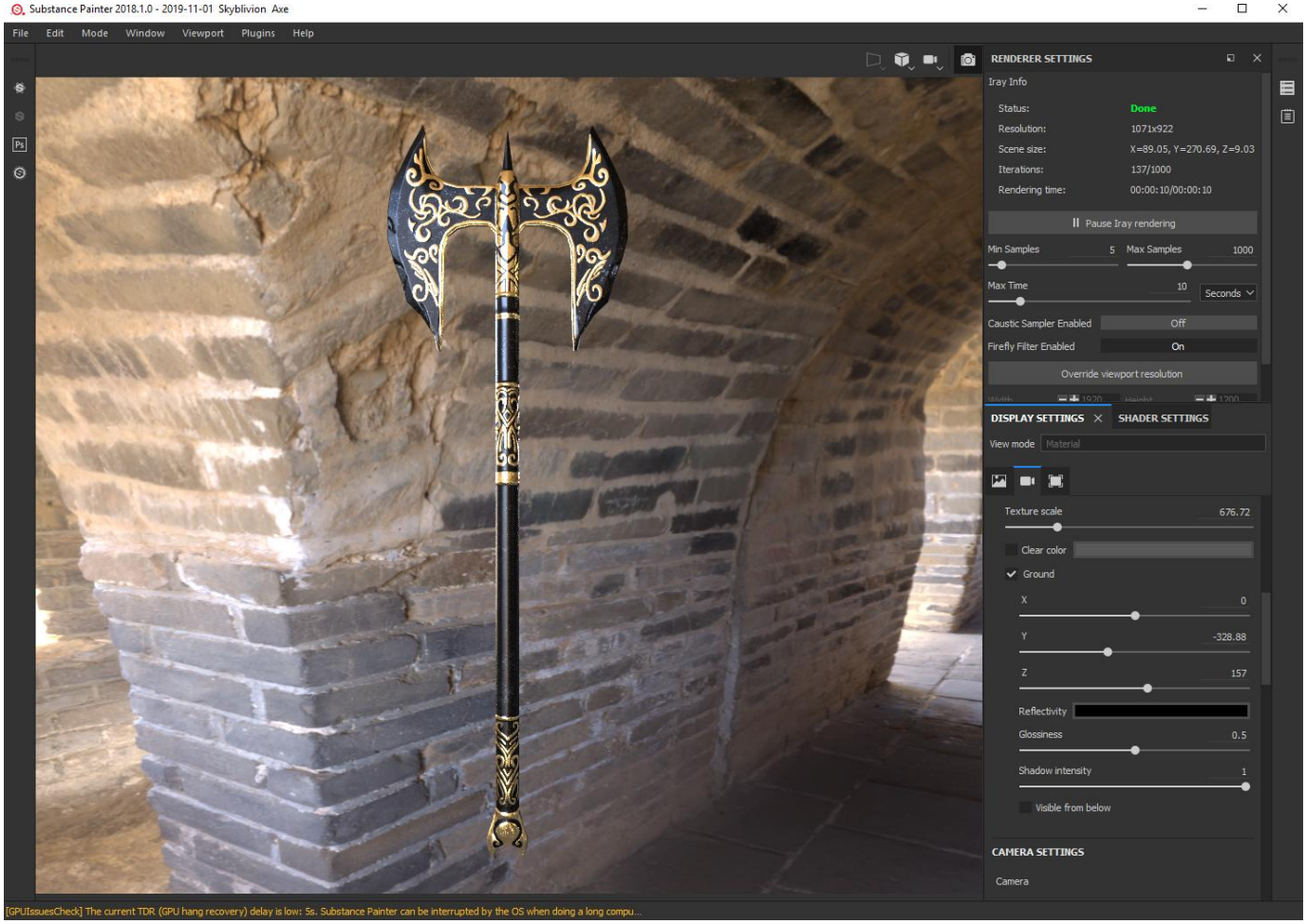
调好之后，是不是比之前还要好呢？



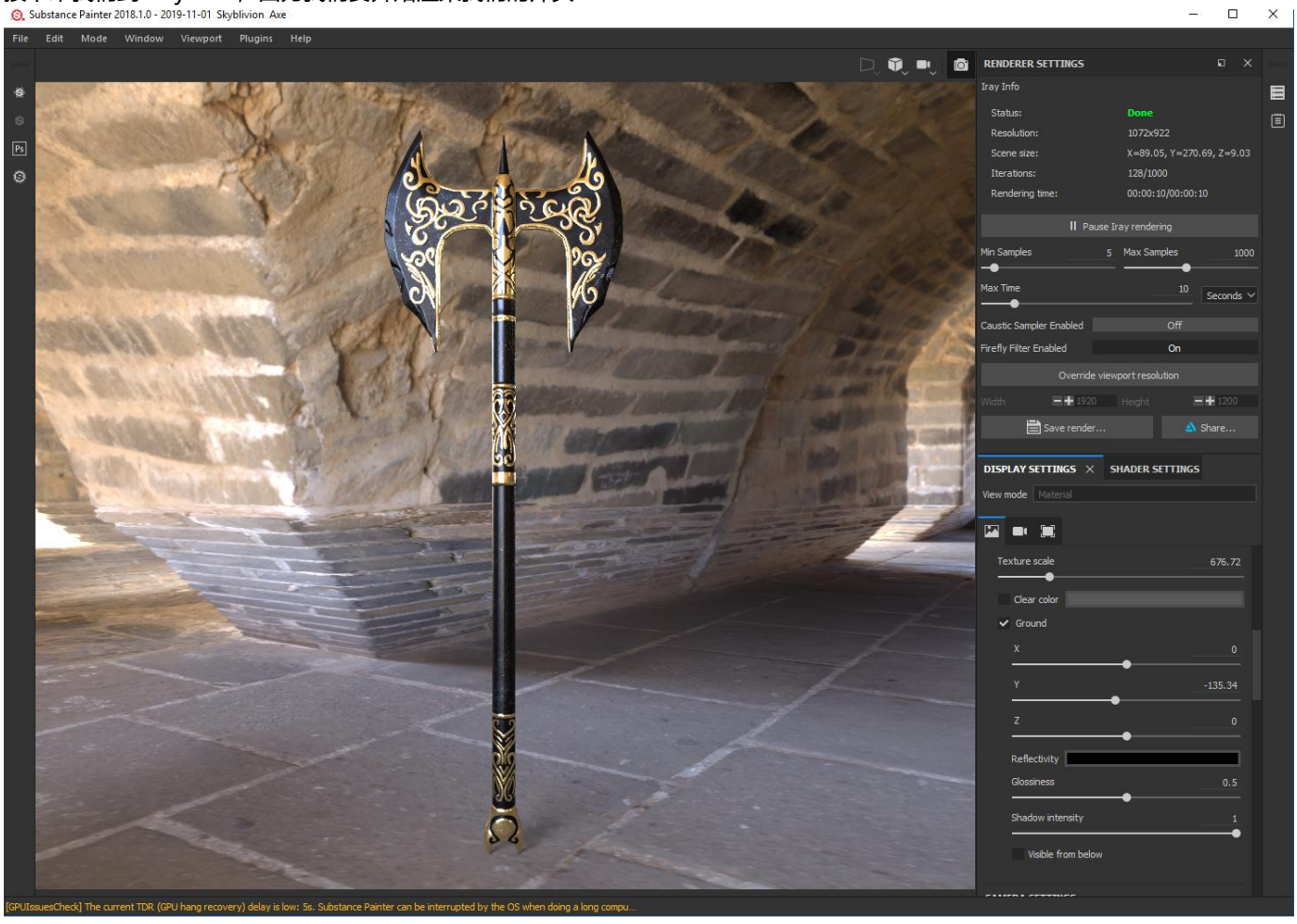
拉到下面一点，可以看到 Ground 设定，用途来调整场景的地形



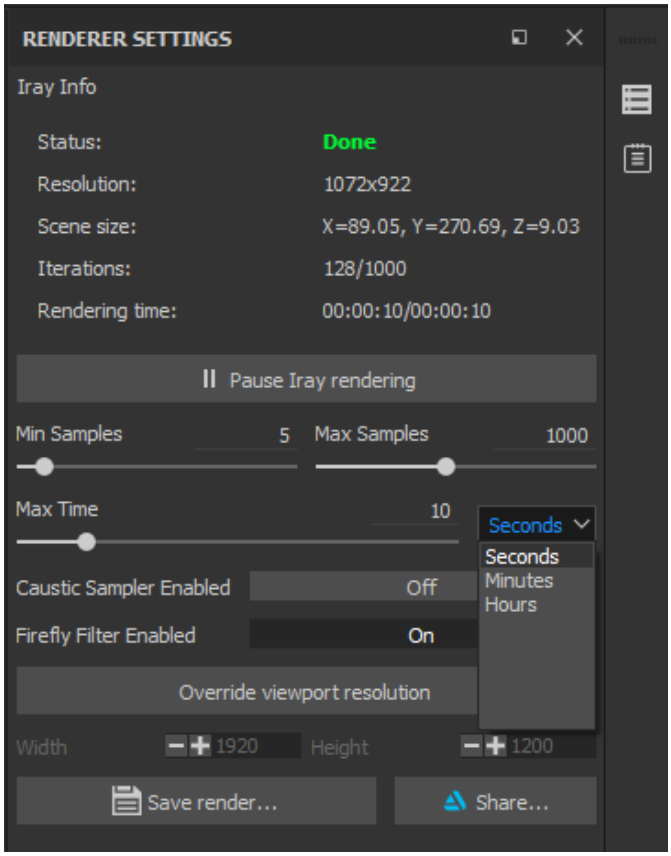
如果不想要地板，可以稍微调整，场景的地板就看不到了



接下来我们到 Iray Info，因为我们要开始渲染我们的斧头



在这里，可以设置和调整渲染的高清程度

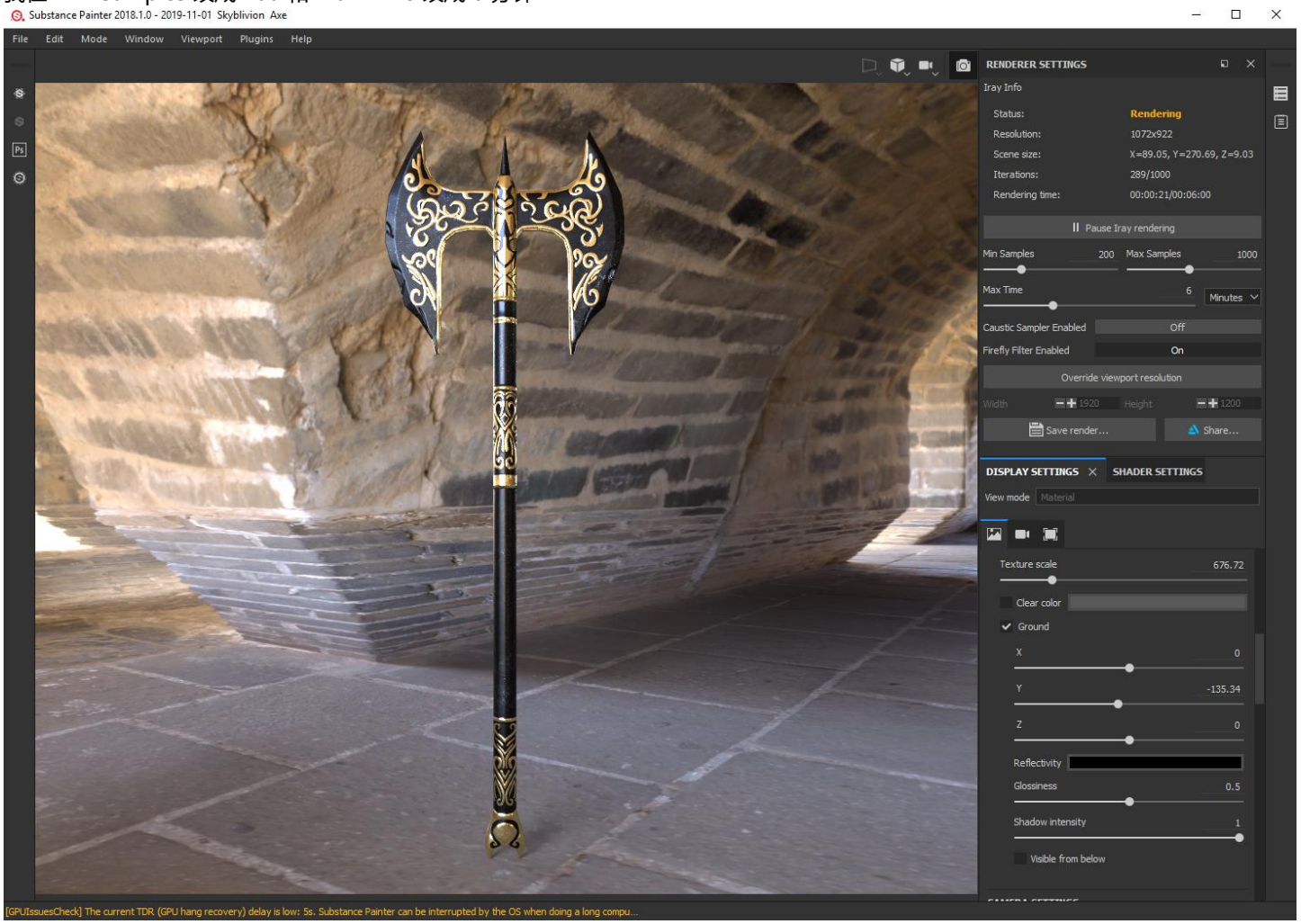


如果想渲染非常精细
可以在 Min Samples 改成 200, 500 1000 以上等

如果渲染非常精细，需要渲染的时间非常久
就把 Max Time 调到 6 分钟，10 分钟 等
你也可以调渲染，以秒，分钟和小时

如果你想要渲染其他大小的图片，
可以在 Override viewport resolution 修改
比方说 1920 x 1080

我在 Min Samples 改成 200 和 Max Time 改成 6 分钟



Iray 渲染完成了

Skyblivion Axe 斧头

Sketchfab + 3ds Max + Zbrush + Substance Painter